EMOTION DYSREGULATION, COGNITIVE FLEXIBILITY, AND PATHOLOGICAL CONCERN: MODERATING ROLE OF ATTACHMENT STYLE

SHORT SYNOPSIS

Submitted in partial fulfillment of the requirement of the degree of

DOCTOR OF PHILOSOPHY

to

Manav Rachna International Institute of Research and Studies
(Deemed to be University)

by

Shubham Gupta
Registration number: 21/Ph.D./096

Under the supervision of

Dr. Priyanka Tiwari
Professor & Head, Department of Applied Psychology

SCHOOL OF BEHAVIOURAL AND SOCIAL SCIENCES

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH & STUDIES

SECTOR-43, SURAJKUND –DELHI ROAD, FARIDABAD – 121001

SCHOOL OF BEHAVIOURAL AND SOCIAL SCIENCES

Certificate

I hereby declare that the short synopsis "Emotion dysregulation, cognitive flexibility, and pathological concern: Moderating role of attachment style" being submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Applied Psychology under faculty of Behavioural and Social Sciences of Manav Rachna International Institute of Research & Studies, Faridabad during the academic year 2021-2022.

It is a bona fide record of original work carried out under the supervision of Dr. Priyanka Tiwari and has not been submitted in full or part to any other university or institute for degree or diploma. Further, it is certified that short synopsis is plagiarism free and proof has been submitted.

Shubham Gupta

(Shubham Gupta)
21/Ph.D./096

Priyanka Tiwari

Signature of the Supervisor
Full name, designation, and faculty

Priyanka Tiwari

(Chairperson, DRC)

ABSTRACT

Emerging adulthood is a dynamic phase of life where an adolescent transforms into an adult. It involves internal (biological, cognitive, emotional) and external (transitions in love, work, view towards world) changes among individuals (Mitra & Arnett, 2019). A plethora of studies have studied these changes and observed that emotion dysregulation, cognitive flexibility, attachment styles and pathological concern are majorly impacted during this time (Dennis & Wal, 2010; Savard et al., 2015; Tolmacz et al., 2019; Zimmermann & Iwanski, 2014). These areas further increase the vulnerability towards psychopathology among individuals. But the association between these constructs have not been explored in depth. The current research addresses this gap by studying the moderating role of attachment style on the relationship between emotion dysregulation, cognitive flexibility, and pathological concern in 500 emerging adults. It will be using the correlational research design. The tools in this research include Difficulties in Emotion Regulation Scale, Cognitive Flexibility Inventory, Measure of Attachment Style, and Pathological Concern Questionnaire. Descriptive statistics will be used to explain the demographic information. SPSS and Hayes PROCESS will be employed for doing the moderation analysis. It is expected that attachment style may moderate the relationships between the variables.

Keywords: Emerging adulthood, Emotion dysregulation, cognitive flexibility, pathological concern, attachment style

CONTENTS

S. No.	Description	Page No.
1	**Introduction**	**6-7**
2	**Literature Review and Research Gap**	**8-23**
	2.1 Influence of emotion regulation, attachment, cognitive flexibility in emerging adults	8
	2.2 Emotion dysregulation	8-9
	2.3 Cognitive flexibility	9-10
	2.4 Attachment	10-11
	2.5 Pathological concern	11-13
	2.6 Association of the variables with one another	13-17
	2.7 Emotion Dysregulation and Pathological Concern	13-14
	2.8 Attachment and Pathological Concern	14-15
	2.9 Cognitive Flexibility and Pathological Concern	15
	2.10 Cognitive Flexibility and Emotion Dysregulation	16
	2.11 Cognitive Flexibility and Attachment	16
	2.12 Emotion Dysregulation and Attachment	17
	2.13 Emerging adulthood & need of intervening in emerging adults	17-19
	2.14 Theoretical framework	20-21
	2.15 Proposed model	21
	2.16 Research Gap	21-23
3	**Description of Broad Area and Problem Statement**	**23-24**
4	**Research Objectives**	**24**

5	**Research Methodology**	**25-28**
	5.1 Aim	25
	5.2 Sample	25
	5.3 Sampling Technique	25
	5.4 Operational Definitions	25
	5.5 Inclusion and Exclusion Criteria of Sample	26
	5.6 Measures	26-27
	5.7 Research Design	27
	5.8 Procedure	28
	5.9 Statistical Analysis	28
	5.10 Ethical Considerations	28
6	**Expected Outcome of the Research**	**28**
	References	
	Plagiarism Report	

Introduction

Emerging adulthood is a time period (18-25 years) where the transition from adolescence to young adulthood occurs (Arnett, 2000). This period of development differs demographically, subjectively and in context with exploring identities. In India, the age range for emerging adulthood is from 18-29 years (Mitra & Arnett, 2019).

Various studies have reported that youth aged 15 to 24 years tend to experience mental illness more than other age groups (MacLeod & Brownlie, 2014). A report by the Institute of Medicine of the National Academics (2014) have shown similar findings where emerging adults (18-26 years) had higher mental health concerns. The reason of facing various health concerns could be due to the stress of new educational, work, and relationship circumstances (Melchior et al., 2007).

In addition, numerous researches have observed that though childhood experiences are important, their impact is often mediated by experiences occurring later in life (Curtis & Cicchetti, 2003; Schulenberg, Sameroff & Cicchetti, 2004; Sroufe, 1997). The reason could be that development is seen as a function of interactions of individual and environment leading to occurrence of various changes during transitional phase, thus impacting overall health and wellbeing of adults (Cicchetti & Rogsch, 2002; Sameroff, 2000).

Various studies have reported that emerging adults tend to have higher emotion dysregulation levels, and difficulty in managing emotions among them can result in depressive disorders & delinquency in the long run (Caprara et al., 2010; Zimmermann & Iwanski, 2014). Moreover, cognitive flexibility is observed to decline as individual reach adulthood (Anderson, 2002; Stahl & Pry, 2005), and it is linked with clinical features like rumination, depressive symptoms, eating disorders (Davis & Nolen-Hoeksema, 2000; Dennis & Wal, 2010; Tchanturia et al., 2011). In addition to this, many studies have found that insecurely attached emerging individuals are vulnerable to depressive symptoms, antisocial tendencies, substance use, criminal behaviours, psychopathic traits, and pathological personality features (Cantazaro & Wei, 2010; Craig, Gray, & Snowden, 2013; Crawford et al., 2007; Doron et al., 2009; Olsson et al., 2013; Savard et al., 2015). Researches have also

observed that pathological concern is linked with attachment insecurities, issues in self-esteem, well-being, emotional and interpersonal difficulties, lower levels of psychological need fulfillment, and self-compassion (Gerber et al., 2015; Shavit & Tolmacz, 2014).

Emotion regulation refers to "the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998, 2014, 2015). The main components include awareness of emotions, evaluation or appraisal of emotions based on the context or cultural expectations & changing the emotions based on the appraisal (Thompson, 2014). It primarily targets two components of emotions namely valence (positive or negative) and emotional arousal (dynamics of emotions). The dynamics of emotion are inclusive of changing the intensity (high or low), responding emotionally (in terms of behavior, physiology, experience) and duration of an emotional response. Emotion dysregulation is defined as "patterns of emotional experience or expression that interfere with goal-directed activity" (Thompson, 2019).

Cognitive flexibility is defined as "the ability to recognize and adapt to various situational demands, shift mindsets or behavioural repertoires when one's social or personal functioning are compromised, and maintain balance among life domains" (Kashdan and Rottenberg, 2010). It is also defined as "adjusting to specific situations, the ability to pass from one idea to another idea or the capacity to consider various problems in terms of multi-dimensions" (Gunduz, 2013; Stevens, 2009).

Attachment is defined as "a strong, affectionate tie we have with special people in our lives that leads us to experience pleasure and joy when we interact with them and to be comforted by their nearness in times of stress" (Berk, 2013). It is a behavioural pattern which is formed when individuals interact with attachment figures (Fraley & Shaver, 2000).

Pathological concern is a "phenomenon characterized by an individual being compulsively concerned for other people's welfare while denying his or her own feelings and needs" (Shavit & Tolmacz, 2014). It includes two features including denial and repression of one's needs and overinvestment in order to satisfy other people's needs.

Literature Review

The following section focuses on the literature relevant for this research and will involve sub-sections including influence of emotion dysregulation, attachment, cognitive flexibility in emerging adults, association of variables with one another, emerging adulthood & need of intervening in this age range, in India.

2.1 Influence of emotion dysregulation, attachment, cognitive flexibility in emerging adults

Various researches have studied how emotion dysregulation, attachment, cognitive flexibility, and pathological concern may impact emerging adulthood.

2.2 Emotion dysregulation

Various researches have stated that emotions are those aspects that increase the possibility of investing in behaviors selected evolutionary for a specific situation like the behaviors leading to survival or building of social connections, that in turn leads to the development of new generations (Al-Shawaf, 2016; Darwin, 1965). However, people may experience behavioral tendencies that can lead to inner conflicts because of incongruence and competitiveness which in turn may put an individual into a dilemma as to how one shall behave in the given situation. So, there is a need to manage emotions which involves strategies one can in dealing with a specific situation to produce a desired, specific emotional response by changing the dynamics of that situation (Gross, 2013). Emotion regulation is a phenomenon that emphasizes the need to manage emotions for effective functioning of an individual.

It consists of intrinsic and extrinsic factors or processes that help to decide the trajectory of emotion and emotional response (Thomson, 2014). These processes can stimulate or hinder the management of emotions among individuals. The intrinsic processes include cognitive or self-referential processes (personality) and biological processes (biological maturation, genetic & neurobiological), and the extrinsic processes include socialization (family & cultural values, peers, school or college or work). Among all these

processes, emotion regulation can be studied by choosing & targeting one or multiple processes to understand the impact of these processes among individuals.

A study by Zimmermann and Iwanski (2014) studied emotion regulation across different age groups and reported that emerging adults have higher emotion dysregulation and dysfunctional rumination, higher avoidance & passivity, and higher expressive suppression.

The core feature of many anxiety and mood disorders is the extended timing or duration of emotional occurrences. For example, depression should not be identified with only a low state of mind but inability to come out of this state and tendency to become stuck during this state (Holtzheimer & Mayberg, 2011; Johnstone & Walter, 2014). Also, features such as inability to engage in rewarding activities & persisting positive emotions for long periods also contribute to vulnerability towards depression. Moreover, disorders such as mood disorders, substance use disorders, anxiety disorders, eating disorders and psychotic disorders have been associated with dysregulation of emotions (Cisler et al., 2010; Harrison et al., 2009; Thorberg, Young, Sullivan, & Lyvers, 2009).

Studies have also claimed that deficits in regulating emotions or persistent use of maladaptive strategies result in various forms of psychopathology like anxiety disorders, depressive disorders, borderline personality disorder, & post-traumatic stress disorder (Glen & Klonsky, 2009; Gratz et al., 2006; Harrison et al., 2009; McLaughlin et al., 2011; Seligowski et al., 2014; Tull et al., 2007).

2.3 Cognitive flexibility

Cognitive flexibility is the ability to adjust one's behaviour effectively in relation with the changing environment (Armbruster et al., 2012). It is an imminent component of executive functioning which promotes goal-directed behaviours like creativity, decision making, and problem solving (Dajani & Uddin, 2015; Gabyrs et al., 2018; Ionescu, 2012). Also, higher cognitive flexibility is associated with higher resilience in adulthood (Chen et al., 2014; Genet & Siemer, 2011)

Cognitive flexibility begins to develop during childhood and adolescence; however, it begins to decline in adulthood (Anderson, 2002; Stahl & Pry, 2005). Cognitive inflexibility in adulthood is linked with clinical features like rumination (Davis & Nolen-Hoeksema, 2000) and eating disorders (Tchanturia et al., 2011). Various studies have seen that higher cognitive flexibility is linked with lower depressive symptoms Dennis & Wal, 2010; Fresco, Rytwinski & Craighead, 2007), increased tendency to use adaptive coping strategies (like problem-focused coping, seeking social support) and reduced tendency to use maladaptive strategies like wishful thinking, detachment in emerging adults (Dennis & Wal, 2010).

2.4 Attachment

Attachment is a strong bond individuals have with special people in their lives due to which they experience pleasure and joy when they interact with those special people and feel comforted by their nearness in times of stress (Berk, 2013). Through attachment, individuals use people they seek closeness to as a safe shelter (attachment figure) in times of stressful events and they serve as a secure base from which individuals tend to explore (Fraley, 2019). “Attachment style is relatively a stable pattern of thoughts, feelings, and behaviour people exhibit in the context of their interpersonal relationships”.

It is seen that appraisal of attachment figures as responsive and available tends to strengthen emotional stability, adjustment levels personally and socially, satisfaction in close relationships, and independent personal growth (Mikulincer & Shaver, 2016). Secure individuals exhibit reduced vulnerability to psychopathology symptoms, and have higher commitment in relationships (Gillath, Karantzas & Fraley, 2016; Mikulincer & Shaver, 2016). However, insecure people tend to be self-critical, have higher levels of self-doubt, and are vulnerable to shield themselves in order to deal with feelings of worthlessness and hopelessness (Wei et al., 2006; Mikulincer & Shaver, 2012). This in turn may increase the risk of psychopathology among individuals.

Moreover, anxious, and avoidant attached individuals are prone to depressive symptoms, antisocial tendencies, substance use, criminal behaviour, psychopathic traits, and pathological personality features in emerging and young adults (Cantazaro & Wei, 2010; Craig, Gray, & Snowden, 2013; Doron et al., 2012; Olsson et al., 2013; Savard et al., 2015).

In emerging adulthood, it is seen that anxiously attached individuals view relationships as a source of anxiety and thus are fearful of relationship loss and abandonment while avoidantly attached individuals feel a sense of discomfort in their relationships and thus tend to be resistant to depend on others for any kind of support (Fraley & Shaver, 2000; Sibley, Fischer & Liu, 2005). Also, attachment anxiety and attachment avoidance are positively linked with interpersonal problems, higher conflicts, reduced relationship quality and security in friendships in this developmental phase (Saferstein, Neimeyer & Hagans, 2005).

Studies have reported that early experiences are not a clear indication of individuals to become secure or insecure adults (Fraley & Roisman, 2019). Supportive caregiving paves the roadway to transit from adolescence to adulthood but it does not ensure secure attachment style. Attachment styles tend to change depending on the environment and relationships. The change may depend on various factors including transition to parenthood (Feeney et al., 2003; Simpson et al., 2003), conflicts and support in relationships (Chow, Ruhl & Buhrmester, 2016; Green, Furrer & McAllister, 2011) and therapy (Taylor et al., 2015).

2.5 Pathological concern

"Pathological concern is a phenomenon wherein an individual is compulsively concerned about other people's welfare while denying his or her own feelings and needs" (Shavit & Tolmacz, 2014).

People with pathological concern have difficulty trusting other individuals due to which they tend to invest in relationships where they hide their needs and focus on other's needs to maintain the relationship. This protects them from disappointments and expectations

but it results in building loneliness and hopelessness within these individuals, which in turn may lead to pathology (Shavit & Tolmacz, 2014).

Individuals with pathological concern tend to have an irresistible desire to be needed due to which they may suppress their own needs (of enjoyment, pleasure, intimacy) and feelings (of being unloved, abandoned, alone), experience loneliness, physical exhaustion, feel emotionally empty, hide past traumatic events and current problems, avoid conflicts and emotional expression of negative emotions, and focus on fulfilling others' needs. Moreover, one's sense of self among these individuals is defined by devaluing & inhibiting one's own needs and feelings, evaluating self by how others perceive the individual, putting others' feelings as priority to maintain relationships, inhibiting self-expression, and exhibiting external compliance to belong (Jack, 1991, 1992; Shavit & Tolmacz, 2014).

Various researches have seen that pathological concern is linked with many concerns like attachment insecurities, low well-being, emotional and interpersonal difficulties (Shavit & Tolmacz, 2014), covert narcissism (Tolmacz et al., 2019), lower self-compassion levels (Gerber et al., 2015).

A study by Tolmacz et al., (2019) on adults observed that narcissism has an association with pathological concern. Covert narcissism was linked with higher pathological concern & lower self-compassion.

Various studies have studied the impact of different components of pathological concern resulting in diverse outcomes. Like, loneliness is linked with depression (Hawkley & Cacioppo, 2010), affective dysregulation (Cheeta et al., 2021). It is also harmful to physical health since it results in increased cardiovascular risk, immune dysfunction, and cognitive decline (Caspi et al., 2006; Pressman et al., 2005; Bennett et al., 2006) and affects mental well-being. It is also linked with poor emotion regulation (Cacioppo et al., 2006). Moreover, feeling of emptiness is linked with anxiety, depression, and suicidal ideation (Blasco-Fontecilla et al., 2016; Klonsky, 2008).

The role played by emotion dysregulation, cognitive flexibility, attachment, and pathological concern is highly significant in emerging adulthood and it is important to understand if they have a connection with one another since they impact the development of the individuals.

2.6 Association of the variables with one another

2.7 Emotion Dysregulation and Pathological Concern

Some studies have reported indirect relationship between emotion dysregulation and pathological concern via sub components of these areas.

Few studies have reported that pathological concern is linked with reduced frequency of positive emotions, lower life satisfaction, self-esteem, and higher negative emotions and attachment insecurities in adults (Shavit & Tolmacz, 2014). Few studies have shown that focusing on others' needs while neglecting one's own needs may lead to depression (Helgeson, 1994).

Connections between guilt and emotion regulation have been found in few studies. A study by Bastin et al., (2021) observed that guilt is linked with decreased neural activity in different areas of the brain (which are responsible for rumination and memory processes) during peer feedback among emerging adults. Increase in rumination levels may lead to higher levels of emotion dysregulation among the population.

The suppression of emotions is linked with higher negative (like guilty, lonely, sad, anxious) and lower positive emotions (like joy, love, grateful, amused) in romantic relationships (Impett et al., 2012). The study also reported that the individuals suppressing emotions reported experiencing reduced levels of psychological well-being, lower life satisfaction, lower relationship satisfaction, higher conflicts in relationships and higher breaking up thoughts. From the research, it is clear how emotion suppression may impact pathological concern in adults by specifically impacting the dynamics of positive and negative emotions.

Some studies have shown associations of emotion dysregulation with loneliness. Expressive suppression has been linked with higher loneliness levels among adults (Gross & John, 2003). Loneliness is positively linked with blaming strategies, rumination, catastrophizing, withdrawal, ignoring, expressive suppression, and negatively linked with strategies including cognitive reappraisal, seeking social support, and linked with downregulation of positive emotions and upregulation of negative ones among adults (Kearns & Creaven, 2016; Preece et al., 2021). Strategies namely self-blame, blaming others, expressive suppression, rumination, expressive suppression, refocus on planning, positive reappraisal and seeking social support predicted loneliness among the adults in the same study.

There is literature showing associations between emotion dysregulation and emptiness. A study by Herron and Sani (2022) on emerging and young adults observed that many individuals shared feeling numb, not been able to cry/laugh, experience joy/sorrow, lacked purpose or meaning in life, feeling unheard, isolated, and inability to connect, to be seen and to be recognized. Individuals also shared absence of emotions and purpose to be main reasons for feeling empty.

2.8 Attachment and Pathological Concern

Many researches have examined the association of attachment and pathological concern with one another and among emerging adults.

A study by Tolmacz et al., (2022) on adults found that healthy concern, relationship satisfaction and authenticity tend to decrease as individuals become older. Individuals with regular jobs experience higher anxious attachment. Also, in this study, avoidant and anxious attachment was linked with higher pathological concern. The females were noted to be lower in avoidant attachment and pathological concern than males. This is incongruent with previous studies where females are found to be higher in pathological concern than males (Helgeson, 1994).

A study by Tolmacz, Bachner-Melman, Lev-Ari & Almagor, (2022), observed that anxious and avoidant attachment positively predicted pathological concern, and negatively predicted authenticity.

Some studies have observed that pathological concern is negatively linked with well-being, psychological needs, autonomy, relatedness, competence, self-awareness, self-determination, perceived choice and is positively linked with silencing of self, attachment avoidance, attachment anxiety, depression, stress, anxiety, loneliness, social anxiety, avoiding social situations, and rejection sensitivity (Gerber,Tomacz & Doron, 2015; Shavit & Tolmacz, 2014).

2.9 Cognitive Flexibility and Pathological Concern

Some studies have reported indirect relationship between cognitive flexibility and pathological concern via sub components of these areas.

Connections between guilt and cognitive flexibility have been noted in few research studies.

Guilt processing has been known to play a crucial role in the development and maintenance of psychopathology including depression, obsessive compulsive disorder, somatization, and anxiety (O'Connor & Berry, 1999).

A study by Tao et al., (2021) on emerging adults reported that guilt promoted cognitive flexibility. This is also contradictory to the previous studies since negative emotions tend to narrow down the attention of an individual (Compton et al., 2004; Fredrickson, 2005). This needs to be explored in future research studies.

Few studies have examined the relationship between cognitive flexibility and loneliness. It is observed that loneliness hinders affective processing because it impacts regions responsible for cognitive control (Layden et al., 2017; Shao et al., 2020; Tian et al., 2017).

2.10 Cognitive Flexibility and Emotion Dysregulation

Many studies have examined the relationship between emotion dysregulation and cognitive flexibility.

Higher cognitive control over emotions is linked with lower emotion dysregulation among adults (Lee, 2022). It is also linked with cognitive reappraisal, less rumination, and perseverative thinking (Gabrys et al., 2018). Previous studies have also reported that cognitive control is linked with reappraisal process (Ochsner & Gross, 2005; Ochsner, Silvers & Buhle, 2012).

Various studies have found that lower cognitive flexibility is linked with mood and anxiety disorders (Stemme, Deco & Busch, 2007; Moore & Malinowski, 2009) and higher cognitive flexibility is linked with fewer psychopathology symptoms (Ruocco, 2005).

2.11 Cognitive Flexibility and Attachment

Cognitive flexibility and attachment have a strong association as reported by previous researches.

Secure attachment results in development of mental executive functions (Lippe et al., 2010). A study by Hadzic and Kantar (2021) found that insecure attachment styles were negatively linked with psychological flexibility where attachment anxiety. Furthermore, obsessed attachment, anxiety, and irrational beliefs predict the decline of cognitive flexibility (Gunduz, 2013).

Few studies have seen that negligent attachment predicts higher cognitive flexibility (Gunduz, 2013) which is contradictory in nature since insecure attachment tends to decrease flexibility. The reason here could be that negligent individuals tend to prioritize autonomy and prefer handling problems on their own and this may make them flexible in dealing with situations. This needs to be explored in depth in future studies.

2.12 Emotion Dysregulation and Attachment

The association of emotion dysregulation and attachment has been studied widely in various researches.

A study by Ozeren (2022) observed that secure attachment styles were negatively linked with emotion regulation concerns, and preoccupied, fearful, and dismissing attachment styles are linked positively with emotion regulation difficulties.

The state attachment anxiety tends to predict increased rumination and is linked with higher suppression while suppression predicts increased attachment avoidance and decreased security (Tammilehto et al., 2022).

Many studies have reported that secure individuals are observed to use reappraisal more than rumination or suppression (Karreman & Vingerhoes, 2012; Troyer & Greitemeyer, 2018).

2.13 Emerging adulthood & need of intervening in emerging adults

Emerging adulthood is known to be a period where many possibilities of love, work and worldviews are explored (Erickson, 1968; Rindfuss, 1991). It is a developmental period which is culturally made where individuals progress their pathways into adulthood which includes the creation of life decisions which have long term consequences like accepting self-responsibility, responsibility towards family, parental expectations, romantic relationships, and independence/autonomy (Arnett, 2000, 2006; Mitra & Arnett, 2019). Individuals explore their identities independently and this exploration is highest during this phase of life (Arnette, 2000; Wood et al., 2018).

However, these individuals experience a dilemma of whether they are adults or not. And this dilemma and progression in this period depends upon the existing personal, social, and family resources and their interaction with the current environment. They are much more independent than they were in adolescence but has yet not reached to a stage where they can

make enduring commitments in different areas of adult life including a secure job, marriage, parenthood (Arnett, 2006).

In addition, in emerging adulthood, additional focus is on building close relationships and intimacy with others. There is a basic need of belongingness due to which people in early adulthood build and maintain relationships. The individuals tend to be more compassionate and understanding towards others and are less self-centered than were in adolescence. They have fewer social restrictions, duties or commitments and have an autonomy to live and build their lives. (Wood et al., 2018). It is also seen that there are different aspects to intimacy and one of them is selflessness which involves sacrificing one's needs to meet those of others. The individuals who have difficulties in this stage tend to be lonely and fearful in their relationships with other people (Arnett, 2006; Feldman & Babu, 2018).

According to National Representative Mortality Survey (2012), individuals aged 15-29 years are at a higher risk of committing suicide in India (Patel et al., 2012).

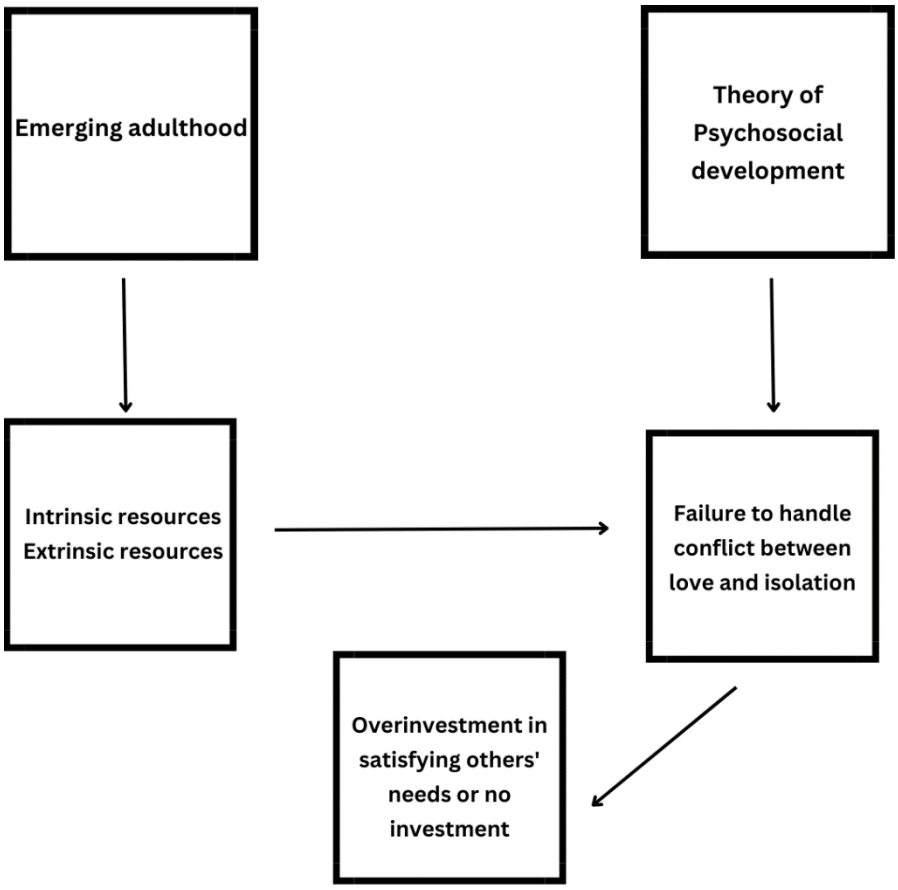
Various studies have reported that youth aged 15 to 24 tend to experience mental illness more than other age groups (MacLeod & Brownlie, 2014;). A report by the Institute of Medicine of the National Academics (2014) have shown similar findings that young adults (18-26 years) tend to have higher mental health problems. The reason of facing mental health concerns could be due to the stress of new educational and work circumstances (Melchior et al., 2007).

The evolution from adolescence to early adulthood is marked by various changes internally (biological, cognitive, emotional) and externally (change of social roles). Specific neurobiological changes include synaptic pruning (process of removing of synapses, changes in prefrontal cortex & limbic regions (Benes, 1989; Hochberg & Konner, 2020; Taber-Thomas & Perez-Edgar, 2015). The brain thus continues to develop new neural connections while removing the unused pathways. This indicates that the minds of individuals during this period can be moulded. (Syndor et al., 2021) and they can inculcate healthy traits like resilience, self-regulation (Raznahan et al., 2011).

Repeated exposure to stressors or stressful events is linked with structural changes in specific regions of brain (amygdala, prefrontal cortex, and hippocampus), which is linked with functional changes in individuals including challenges in learning, different areas of executive functioning and memory. This is turn is associated with risky behaviours among emerging adults during this stage, which is also seen by experimenting with different substances (Schulenberg et al., 2004; Schulenberg & Maggs, 2002). Various cognitive, emotional, and social challenges are encountered during this phase resulting in difficulties in handling independence among emerging adults (Wood et al., 2018).

From the research studies and literature review, it is evident that there is a need to understand the challenges & risks young adults face. Understanding the connection of different socialization processes can help in making emerging adults efficient in managing & expressing emotions, building a healthy attachment style, strengthening their cognitive flexibility, thus making them less susceptible to disorders and building a life of optimal functioning.

2.14 Theoretical framework

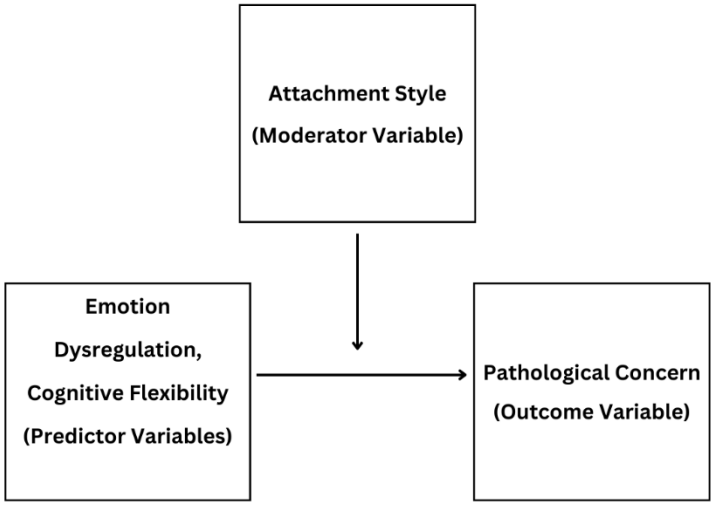

Emerging adulthood
Theory of Psychosocial development
Intrinsic resources
Extrinsic resources
Failure to handle conflict between love and isolation
Overinvestment in satisfying others' needs or no investment

Emerging adulthood is a theory of development which is marked by various changes (biologically, psychologically, socially). Individuals tend to be exploring their identities in the spheres of work, love, and perspectives towards the world. While moving through these transitions, individuals need intrinsic & extrinsic resources to transit this developmental period (Arnett, 2000; 2006; Mitra & Arnett, 2019). Handling situations in a healthy manner require managing inner thought and emotional processes during positive and negative circumstances. Extrinsically, relationships can be a vital support system for the emerging adults. Erickson's theory of psychosocial development has also emphasized on the importance of interpersonal relationships. According to him, emerging adulthood is a time period where primary focus is on building close relationships and intimacy with others. There is a basic need of belongingness and individuals tend to inculcate the strengths needed to nurture their relationships despite any sacrifices they may need to make. Some individuals

may form and sustain healthy relationships while some may not. They have an inner conflict between isolation and love, and the individuals who have difficulties in this stage may become lonely and fearful in their relationships with other people and as a result may either invest overly in their relationships sacrificing their needs or have no investment at all (Erickson, Sroufe & Egeland,1985; Feldman & Babu, 2018). It is thus important to understand the dynamics of both interpersonal and intrapersonal processes for better transaction of emerging adults during this stage of life.

2.15 Proposed model

Based on Erickson's theory of psychosocial development and Arnett's theory of emerging adulthood, following model has been proposed.



Research Gap

From in-depth analysis of literature, following gaps are identified:

- Various changes at the biological, social, and psychological level occur in emerging adulthood, leading to tremendous shifts in behaviour, increased responsibility towards family, parental expectations, romantic relationships, and independence/autonomy (Arnett, 2006; Mitra & Arnett, 2019; Thompson & Nelson, 2001; Wood et al., 2018).

There is a need to intervene in this developmental period to understand how different attributes interact to aggravate or reduce the undesired & desired behaviours.

- It is observed that lack of emotional reactivity or heightened reactivity to external stimuli, inability to experience positive emotions, change the emotional state of mind, tends to aggravate the severity of symptoms in mental illnesses (Eskander et al., 2020; Janiri et al., 2021; Wolkenstein, Sommerhoff, Voss, 2022). Due to this, many studies are conducted on clinical population. However, in non-clinical population, deficits in managing emotions have shown associations with anxiety disorders, depressive disorders, and other psychological problems (Seligowski et al., 2014). So, it is crucial to understand the trajectory of emotion dysregulation in order to understand how it can influence interpersonal and cognitive processes in emerging adulthood.

- Various researches have seen that among emerging adults, pathological concern is linked with many concerns including attachment insecurities, low self-esteem, low well-being, emotional and interpersonal difficulties, lower levels of self-compassion (Gerber et al., 2015; Shavit & Tolmacz, 2014). During emerging adulthood, it is thus important to understand pathological concern and factors influencing it.

- During emerging adulthood, individuals have a need for intimacy and love, due to which they tend to invest more in interpersonal relationships (Feldman & Babu, 2018; Wood et al., 2018). But individuals having insecure attachment styles are observed to overly invest in others while denying their own needs, have higher relationship concerns, lower cognitive flexibility, and higher emotion dysregulation (Ozeren, 2022; Salande & Hawkins, 2016; Tolmacz et al., 2022). Moreover, pathological concern is linked with reduced frequency of positive emotions, higher negative emotions, and depression among adults (Preece et al., 2021; Shavit & Tolmacz, 2014). However, the association of emotion dysregulation with cognitive flexibility to influence pathological concern in the presence of attachment style has been explored

less in literature. There is thus a need to study how emotion dysregulation, cognitive flexibility, and attachment style impact pathological concern.

The current study addresses these gaps and examines the impact of emotion dysregulation and cognitive flexibility on pathological concern, having attachment style as a moderator among emerging adults.

Description of Broad Area

Emerging adulthood is a developmental phase where individuals transform from adolescents to young adults (Arnett, 2000; 2006; Mitra & Arnett, 2019). During this period, certain areas like emotion dysregulation, cognitive flexibility, attachment style and pathological concern are drastically impacted. Their interactions can result in a heathy developmental progression or may hinder development and can lead to psychopathology.

There is thus a need to intervene and understand the challenges and risks faced by emerging adults. Understanding the problems will help to identify the risk for psychopathology and can help emerging adults to engage in processes and behaviours in order to effectively manage their emotions, enhance their cognitive flexibility, build a healthy attachment style and reduce the vulnerability to psychopathology.

Emotion dysregulation is the inability of a person to manage emotions. Cognitive flexibility is defined as an ability to perceive multiple explanations and solutions to difficult situations and tendency to perceive difficult situations as controllable. (Dennis & Wal, 2010). Pathological concern is defined as a type of concern which is made of two components namely repression and denial of one's needs, and overinvestment in satisfying needs of others (Shavit & Tolmacz, 2014).

Problem Statement

According to National Crime Records Bureau (2021), Delhi has the highest number of suicides in India among all the Union Territories and Metropolitan Cities. The major causes of suicides in India include family issues, illnesses, and interpersonal concerns. Out of all age groups, 67% individuals were emerging adults. From the literature, it is also observed that

lack of skills or maladaptive regulation of positive and negative emotions, insecure attachment styles, lower cognitive flexibility in emerging adults can lead to various problems like depressive disorders, suicide, interpersonal conflicts, substance use, emotional and interpersonal difficulties (Doron et al., 2009; Martin, Staggers & Anderson, 2011; Shavit & Tolmacz, 2014; Tchanturia et al., 2011). It calls for a need to study these variables and their association with one another which will help in understanding how these variables impact emerging adults collectively. The current study thus aims to investigate the impact of emotion dysregulation and cognitive flexibility on pathological concern taking attachment style as moderator between their relationship.

Research Objectives

1. To examine the relationship among emotion dysregulation, attachment style, cognitive flexibility, and pathological concern in emerging adults.
2. To examine whether attachment style is a significant moderator of the relationship between emotion dysregulation and pathological concern.
3. To examine whether attachment style is a significant moderator of the relationship between cognitive flexibility and pathological concern.

Research Hypothesis

1. There would be a significant relationship among emotion dysregulation, attachment style, cognitive flexibility, and pathological concern in emerging adults.
2. Attachment styles would significantly moderate the relationship between emotion dysregulation and pathological concern in emerging adults.
3. Attachment styles would significantly moderate the relationship between cognitive flexibility and pathological concern in emerging adults.

Research Methodology

5.1 Aim

To examine the moderating role of attachment style on the relationship between emotion dysregulation, cognitive flexibility, and pathological concern in emerging adults.

5.2 Sample

5.3 Sampling Technique

500 emerging adults will be recruited to serve as the participants of the study. Convenient sampling method will be used. The chosen age group will be of range 18-29 years and the locale will be Delhi/NCR region.

Predictor variable: Emotion dysregulation, Cognitive flexibility
Outcome variable: Pathological concern
Moderating variable: Attachment style

5.4 Operational Definitions

- **Emotion dysregulation:** Emotion dysregulation is a multifaceted construct which involves "the relative absence of any or all the following abilities" in regulating emotions (Gratz & Roemer, 2004). The relative absence here indicates that the difficulties may be present in one or more abilities or the degree of difficulty may vary.
- **Cognitive flexibility:** Cognitive flexibility is defined as "an ability to perceive multiple explanations and solutions to difficult situations and tendency to perceive difficult situations as controllable" (Dennis & Wal, 2010).
- **Attachment style:** Attachment style is defined is "a psychological tie between two or more individuals who comprehends, have a sharing state of mind, and have a nature of solace and reliance with each other" (Ahmad, Jahan & Imtiaz, 2016).

- **Pathological concern:** Pathological concern is defined as "a type of concern which is made of two components namely repression and denial of one's needs, and overinvestment in satisfying needs of others" (Shavit & Tolmacz, 2014)

5.5 Inclusion and Exclusion Criteria of Sample:

Inclusion Criteria

- Individuals within the age range of 18-29 years who can comprehend Hindi and English Language.

Exclusion criteria

- Emerging adults with chronic physical illness or mental illness or receiving psychotherapy in the past 2 years.
- Individuals who are less than 18 years and more 29 years.

5.6 Measures

Subjects will be asked for the informed consent and Socio-Demographic details.

Socio-Demographic Details:

The emerging adults will complete a demographic questionnaire assessing the age, gender, birth order, father's occupation, mother's occupation, yearly income of family, any history of physical or mental illness.

Tools

Difficulties in Emotion Regulation Scale-Short Form (Kaufman et al., 2016)

It is a self-report tool of measurement of 18 items which assesses problems related to regulating emotions in six major domains like lack of acceptance of emotional responses, lack of awareness of emotions, lack of emotional clarity, difficulty in engaging in behaviour which is goal directed, difficulties in controlling impulses and limited access to strategies to manage emotions. It is made of 18 items assessed using a Likert scale ranging from 1 (almost never) to 5 (almost always). It has good psychometric properties where Cronbach's alpha ranges from .78 to .91.

Cognitive Flexibility Inventory (Dennis & Wal, 2010)

It is self-report tool of measurement of 20 items which assesses two components of cognitive flexibility namely alternatives (ability to perceive different alternative explanations or solutions to problems, and control (tendency to perceive challenging situations or problems as controllable). The items are analyzed using a 7-point Likert scale 1 (strongly disagree) to 7 (strongly agree). It has efficient psychometric properties where Cronbach's alpha for Alternative is 0.91 and for Control is 0.89.

Pathological Concern Questionnaire (Shavit & Tolmacz, 2014)

It is a self-report tool having 18 items which assesses thoughts, emotions, and behaviour in context with denial of one's needs and overinvestment in satisfying needs of others. It is analyzed on a Likert scale (7-point) ranging from 1 (not at all) -7 (very much). It has fine psychometric properties where Cronbach alpha is 0.89.

Measure of Attachment Style (Ahmad, Jahan & Imtiaz, 2016)

It is a self-report tool which has 27 items that measures the attachment patterns of individuals. The patterns will be analyzed using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It has good psychometric properties where Cronbach's alpha is 0.80.

5.7 Research Design

Correlational research design

5.8 Procedure

Consent from the authors of all the scales will be taken. All the scales which have not been developed and used on Indian population will be validated using Confirmatory Factor Analysis. Written informed consent will be taken from participants to ensure the anonymity and confidentiality of their data and the data will only be used for the research purpose. Following this, the scales of emotion regulation, cognitive flexibility, type of attachment style and pathological concern will be administered on the participants who will give their informed consent. Th normality of data will be checked using Kolmogorov-Smirnov test, Shapiro Wilk test, and by checking the Skewness and Kurtosis. The data will then be coded according to the scoring of the respective scales. The compiled data will be analyzed employing appropriate statistics.

5.9 Statistical Analysis

The demographic details will be explained using descriptive statistics through SPSS V25. Moderation analysis will be done using Hayes PROCESS to assess the relationship between the variables.

5.10 Ethical Considerations

- A written informed consent from the participants will be taken before the administration of the tools.
- The participation in the study will be voluntary.
- The participants can withdraw from the study at any time.
- Confidentiality of the sample will be maintained.
- Transparency and accountability will be ensured.

Expected Outcome of the Research

It is proposed that attachment style may significantly moderate the relation between emotion regulation, cognitive flexibility pathological concern among emerging adults.

References

Ahmad, N., Jahan, A., & Imtiaz, N. (2016). Measure of Attachment Style. *The International Journal of Indian Psychology*, *3*(4), 48-60.

Al-Shawaf, L., Conroy-Beam, D., Asao, K., & Buss, D. M. (2016). Human emotions: An evolutionary psychological perspective. *Emotion Review*, *8*(2), 173-186. https://doi.org/10.1177/1754073914565518.

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child neuropsychology*, *8*(2), 71-82. https://doi.org/10.1076/chin.8.2.71.8724.

Ardenghi, S., Rampoldi, G., Bani, M., & Strepparava, M. G. (2020). Attachment styles as predictors of self-reported empathy in medical students during pre-clinical years. *Patient Education and Counseling*, *103*(5), 965-970. https://doi.org/10.1016/j.pec.2019.11.004.

Armbruster, D. J. N., Ueltzhöffer, K., Basten, U., & Fiebach, C. J. (2012). Prefrontal cortical mechanisms underlying individual differences in cognitive flexibility and stability. *Journal of Cognitive Neuroscience*, *24*(12), 2385–2399. https://doi.org/10.1162/JOCN_A_00286.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist*, *55*(5), 469-480. https://doi.org/10.1037/0003-066X.55.5.469.

Arnett, J. J. (2006). Emerging Adulthood: Understanding the New Way of Coming of Age. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century,* 3–19. American Psychological Association. https://doi.org/10.1037/11381-001.

Baas, M., De Dreu, C. K., & Nijstad, B. A. (2008). A meta-analysis of 25 years of mood-creativity research: Hedonic tone, activation, or regulatory focus?. *Psychological bulletin*, *134*(6), 779-806. https://doi.org/10.1037/a0012815.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of personality and social psychology*, *61*(2), 226-244. https://doi.org/10.1037/0022-3514.61.2.226.

Bastin, C., Rakesh, D., Harrison, B. J., Davey, C. G., Allen, N. B., Muller, S., & Whittle, S. (2021). Feelings of shame and guilt are associated with distinct neural activation in youth. *Biological Psychology*, *159*, 108025. https://doi.org/10.1016/j.biopsycho.2021.108025.

Baumann, N., & Kuhl, J. (2005). Positive affect and flexibility: overcoming the precedence of global over local processing of visual information. *Motivation and Emotion, 29*(2), 123–134. https://doi.org/10.1007/s11031-005-7957-1.

Berk, L., 2013. *Child development*. 9th ed. Boston: Pearson.

Benes, F. M. (1989). Myelination of cortical-hippocampal relays during late adolescence. *Schizophrenia bulletin*, *15*(4), 585-593.

Bennett, D. A., Schneider, J. A., Tang, Y., Arnold, S. E., & Wilson, R. S. (2006). The effect of social networks on the relation between Alzheimer's disease pathology and level of cognitive function in old people: a longitudinal cohort study. *The Lancet Neurology*, *5*(5), 406-412. https://doi.org/10.1016/S1474-4422(06)70417-3.

Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. Psychoanalytic Study of the Child, *29*, 107–157.

Blasco-Fontecilla, H., Fernández-Fernández, R., Colino, L., Fajardo, L., Perteguer-Barrio, R., & de Leon, J. (2016). The Addictive Model of Self-Harming (Non-suicidal and Suicidal) Behavior. *Frontiers in psychiatry*, *7*(8). https://doi.org/10.3389/fpsyt.2016.00008.

Bowlby, J. (1988). A secure base: Parent-child attachment and healthy human development. *PsycNET*. https://psycnet.apa.org/record/1988-98501-000.

Buhle, J. T., Silvers, J. A., Wager, T. D., Lopez, R., Onyemekwu, C., Kober, H., ... & Ochsner, K. N. (2014). Cognitive reappraisal of emotion: a meta-analysis of human neuroimaging studies. *Cerebral cortex*, *24*(11), 2981-2990. https://doi.org/10.1093/cercor/bht154.

Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: cross-sectional and longitudinal analyses. *Psychology and aging*, *21*(1), 140-151. https://doi.org/10.1037/0882-7974.21.1.140.

Caprara, G. V., Gerbino, M., Paciello, M., Di Giunta, L., & Pastorelli, C. (2010). Counteracting depression and delinquency in late adolescence: the role of regulatory emotional and interpersonal self-efficacy beliefs. *European Psychologist*, *15*(1), 34-48. https://doi.org/10.1027/1016-9040/a000004.

Caspi, A., Harrington, H., Moffitt, T. E., Milne, B. J., & Poulton, R. (2006). Socially isolated children 20 years later: risk of cardiovascular disease. *Archives of pediatrics & adolescent medicine*, *160*(8), 805-811. https://doi.org/10.1001/archpedi.160.8.805.

Cantazaro, A., & Wei, M. (2010). Adult attachment, dependence, self-criticism, and depressive symptoms: A test of a mediational model. *Journal of personality*, *78*(4), 1135-1162. https://doi.org/10.1111/j.1467-6494.2010.00645.x.

Carlson, E. A. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child development*, *69*(4), 1107-1128.

Cheeta, S., Beevers, J., Chambers, S., Szameitat, A., & Chandler, C. (2021). Seeing sadness: Comorbid effects of loneliness and depression on emotional face processing. *Brain and Behavior*, *11*(7), e02189. https://doi.org/10.1002/brb3.2189.

Chen, Q., Yang, W., Li, W., Wei, D., Li, H., Lei, Q., Zhang, Q., & Qiu, J. (2014). Association of creative achievement with cognitive flexibility by a combined voxel-based morphometry and resting-state functional connectivity study. *NeuroImage*, *102*, 474–483. https://doi.org/10.1016/j.neuroimage.2014.08.008.

Chow, C. M., Ruhl, H., & Buhrmester, D. (2016). Reciprocal associations between friendship attachment and relational experiences in adolescence. *Journal of Social and Personal Relationships*, *33*(1), 122-146. https://doi.org/10.1177/0265407514562987.

Cicchetti, D., & Rogosch, F. A. (2002). A developmental psychopathology perspective on adolescence. *Journal of consulting and clinical psychology*, *70*(1), 6-20. https://doi.org/10.1037/0022-006X.70.1.6.

Cisler, J. M., Olatunji, B. O., Feldner, M. T., & Forsyth, J. P. (2010). Emotion Regulation and the Anxiety Disorders: An Integrative Review. *Journal of Psychopathology and Behavioral Assessment*, *32*(1), 68–82. https://doi.org/10.1007/S10862-009-9161-1.

Compton, S. N., March, J. S., Brent, D., Albano, A. M., Weersing, V. R., & Curry, J. (2004). Cognitive-behavioral psychotherapy for anxiety and depressive disorders in children and adolescents: an evidence-based medicine review. *Journal of the American Academy of Child & Adolescent Psychiatry*, *43*(8), 930-959. https://doi.org/10.1097/01.chi.0000127589.57468.bf.

Craig, R. L., Gray, N. S., & Snowden, R. J. (2013). Recalled parent bonding, current attachment, and the triarchic conceptualization of psychopathy. Personality and Individual Differences, *55*(4), 345–350. https://doi.org/10.1016/j.paid.2013.03.012.

Crawford, T. N., John Livesley, W., Jang, K. L., Shaver, P. R., Cohen, P., & Ganiban, J. (2007). Insecure attachment and personality disorder: A twin study of adults. *European Journal of*

Personality: Published for the European Association of Personality Psychology, *21*(2), 191-208. https://doi.org/10.1002/per.602.

Curtis, W. J., & Cicchetti, D. (2003). Moving research on resilience into the 21st century: Theoretical and methodological considerations in examining the biological contributors to resilience. *Development and psychopathology*, *15*(3), 773-810. doi:10.1017/S0954579403000373.

Dajani, D. R., & Uddin, L. Q. (2015). Demystifying cognitive flexibility: Implications for clinical and developmental neuroscience. *Trends in neurosciences*, *38*(9), 571-578. https://doi.org/10.1016/j.tins.2015.07.003.

Darwin, C. (1872/1965). The Expression of the Emotions in Man and Animals. London, John Murray. https://doi.org/10.1037/10001-000.

Davis, R. N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive therapy and research*, *24*(6), 699-711. https://doi.org/10.1023/A:1005591412406.

Deak, G. O. (2003). The development of cognitive flexibility and language abilities. In R. V. Kail (Ed.), *Advances in child development and behavior, 31*, 271–327. Academic Press.

Del Giudice, M. (2019). Sex differences in attachment styles. *Current Opinion in Psychology*, *25*, 1-5. https://doi.org/10.1016/j.copsyc.2018.02.004.

Dennis, J. P., & Vander Wal, J. S. (2010). The cognitive flexibility inventory: Instrument development and estimates of reliability and validity. *Cognitive therapy and research*, *34*(3), 241-253. https://doi.org/10.1007/s10608-009-9276-4.

Dick, A. S. (2014). The development of cognitive flexibility beyond the preschool period: An investigation using a modified Flexible Item Selection Task. *Journal of experimental child psychology*, *125*, 13-34. https://doi.org/10.1016/j.jecp.2014.01.021.

Donges, U. S., Jachmann, A., Kersting, A., Egloff, B., & Suslow, T. (2015). Attachment anxiety and implicit self-concept of neuroticism: Associations in women but not men. *Personality and Individual Differences*, *72*, 208-213. https://doi.org/10.1016/j.paid.2014.08.043.

Doron, G., Moulding, R., Nedeljkovic, M., Kyrios, M., Mikulincer, M., & Sar-El, D. (2012). Adult attachment insecurities are associated with obsessive compulsive disorder. *Psychology and psychotherapy: theory, research and practice*, *85*(2), 163-178. doi: 10.1111/j.2044-8341.2011.02028.x.

Dreisbach, G., & Goschke, T. (2004). How positive affect modulates cognitive control: reduced perseveration at the cost of increased distractibility. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*(2), 343-353. https://doi.org/10.1037/0278-7393.30.2.343.

Erickson, M. F., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development, 50*, 147-166. https://doi.org/10.2307/3333831.

Erikson, E. H. (1968). *Identity: Youth and crisis*. Norton & company.

Eskander, N., Emamy, M., Saad-Omer, S. M., Khan, F., & Jahan, N. (2020). The impact of impulsivity and emotional dysregulation on comorbid bipolar disorder and borderline personality disorder. *Cureus*, *12*(8). https://doi.org/10.7759/cureus.9581.

Feeney, J., Alexander, R., Noller, P., & Hohaus, L. (2003). Attachment insecurity, depression, and the transition to parenthood. *Personal Relationships*, *10*(4), 475-493. https://doi.org/10.1046/J.1475-6811.2003.00061.X.

Feldman, R.S., Babu, N. (2018). *Development Across the Life Span* (8th ed.). Pearson.

Fraley, R. C. (2019). Attachment in Adulthood: Recent Developments, Emerging Debates, and Future Directions. *Annual Review of Psychology, 70*(1)*, 401-422.* https://doi.org/10.1146/annurev-psych-010418-102813.

Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of general psychology*, *4*(2), 132-154. https://doi.org/10.1037/1089-2680.4.2.132.

Fraley, R. C., & Roisman, G. I. (2019). The development of adult attachment styles: Four lessons. *Current opinion in psychology*, *25*, 26-30. https://doi.org/10.1016/j.copsyc.2018.02.008.

Fraley, C. R., Niedenthal, P. M., Marks, M., Brumbaugh, C., & Vicary, A. (2006). Adult Attachment and the Perception of Emotional Expressions: Probing the Hyperactivating Strategies Underlying Anxious Attachment. *Journal of Personality*, *74*(4), 1163–1190. https://doi.org/10.1111/J.1467-6494.2006.00406.X

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *The American psychologist*, *60*(7), 678-686. https://doi.org/10.1037/0003-066X.60.7.678.

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What Good Are Positive Emotions in Crises? A Prospective Study of Resilience and Emotions Following the Terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, *84*(2), 365–376. https://doi.org/10.1037/0022-3514.84.2.365.

Fresco, D. M., Rytwinski, N. K., & Craighead, L. W. (2007). Explanatory flexibility and negative life events interact to predict depression symptoms. *Journal of Social and Clinical Psychology*, *26*(5), 595-608. https://doi.org/10.1521/jscp.2007.26.5.595.

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical psychology review*, *30*(7), 865-878.

https://doi.org/10.1016/j.cpr.2010.03.001.

Gabrys, R. L., Tabri, N., Anisman, H., & Matheson, K. (2018). Cognitive Control and Flexibility in the Context of Stress and Depressive Symptoms: The Cognitive Control and Flexibility Questionnaire. *Frontiers in Psychology*, 9, 2219. https://doi.org/10.3389/fpsyg.2018.02219.

Genet, J. J., & Siemer, M. (2011). Flexible control in processing affective and non-affective material predicts individual differences in trait resilience. *Cognition and emotion*, *25*(2), 380-388. https://doi.org/10.1080/02699931.2010.491647.

Gerber, Z., Tolmacz, R., & Doron, Y. (2015). Self-compassion and forms of concern for others. *Personality and Individual Differences*, *86*, 394-400.

Gillath, O., Karantzas, G. C., & Fraley, R. C. (2016). *Adult attachment: A concise introduction to theory and research*. Academic Press.

Gillath, O., Sesko, A. K., Shaver, P. R., & Chun, D. S. (2010). Attachment, authenticity, and honesty: dispositional and experimentally induced security can reduce self-and other-deception. *Journal of personality and social psychology*, *98*(5), 841-855. https://doi.org/10.1037/a0019206.

Gläscher, J., Adolphs, R., Damasio, H., Bechara, A., Rudrauf, D., Calamia, M., ... & Tranel, D. (2012). Lesion mapping of cognitive control and value-based decision making in the prefrontal cortex. *Proceedings of the National Academy of Sciences*, *109*(36), 14681-14686. https://doi.org/10.1073/pnas.1206608109.

Glenn, C. R., & Klonsky, E. D. (2009). Emotion dysregulation as a core feature of borderline personality disorder. *Journal of Personality Disorders*, *23*(1), 20–28. https://doi.org/10.1521/PEDI.2009.23.1.20.

Goldstein, A. L., Haller, S., Mackinnon, S. P., & Stewart, S. H. (2019). Attachment anxiety and avoidance, emotion dysregulation, interpersonal difficulties and alcohol problems in emerging adulthood. *Addiction Research & Theory*, *27*(2), 130-138. https://doi.org/10.1080/16066359.2018.1464151.

Goschke, T., & Bolte, A. (2014). Emotional modulation of control dilemmas: The role of positive affect, reward, and dopamine in cognitive stability and flexibility. *Neuropsychologia*, *62*, 403-423. https://doi.org/10.1016/j.neuropsychologia.2014.07.015.

Gratz, K. L., Rosenthal, M. Z., Tull, M. T., Lejuez, C. W., & Gunderson, J. G. (2006). An experimental investigation of emotion dysregulation in borderline personality disorder. *Journal of abnormal psychology*, *115*(4), 850-855. https://doi.org/10.1037/0021-843X.115.4.850.

Green, B. L., Furrer, C. J., & McAllister, C. L. (2011). Does attachment style influence social support or the other way around? A longitudinal study of Early Head Start mothers. *Attachment & Human Development*, *13*(1), 27-47. https://doi.org/10.1080/14616734.2010.488121.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of general psychology*, *2*(3), 271-299. https://doi.org/10.1037/1089-2680.2.3.271.

Gross, J. J. (1998). Antecedent-and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of personality and social psychology*, *74*(1), 224.

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, *39*(3), 281–291. https://doi.org/10.1017/S0048577201393198.

Gross, J. J. (2013). Emotion regulation: Taking stock and moving forward. *Emotion*, *13*(3), 359–365. https://doi.org/10.1037/A0032135.

Gross, J. J. (2014). Emotion regulation: conceptual and empirical foundations. The Guilford Press.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological inquiry*, *26*(1), 1-26. https://doi.org/10.1080/1047840X.2014.940781.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of personality and social psychology*, *85*(2), 348–362. https://doi.org/10.1037/0022-3514.85.2.348.

Gunduz, B. (2013). The Contributions of Attachment Styles, Irrational Beliefs and Psychological Symptoms to the Prediction of Cognitive Flexibility. *Educational Sciences: Theory and Practice*, *13*(4), 2079-2085.

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P., Ray, S. (2021). Moderation Analysis. In: Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R. Classroom Companion: Business. Springer, Cham. https://doi.org/10.1007/978-3-030-80519-7_8.

Hadžić, A., & Kantar, D. (2021). The relationships between attachment dimensions and affect in adulthood: The mediating effects of psychological flexibility. *Primenjena Psihologija*, *14*(2), 173–188. https://doi.org/10.19090/PP.2021.2.173-188.

Harrison, A., Sullivan, S., Tchanturia, K., & Treasure, J. (2009). Emotion recognition and regulation in anorexia nervosa. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, *16*(4), 348-356. https://doi.org/10.1002/cpp.628.

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of behavioral medicine*, *40*(2), 218-227. https://doi.org/10.1007/s12160-010-9210-8.

Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford publications.

Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin,116*(3), 412-428.https://doi.org/10.1037/0033-2909.116.3.412.

Herron, S. J., & Sani, F. (2022). Understanding the typical presentation of emptiness: a study of lived-experience. *Journal of Mental Health*, *31*(2), 188–195. https://doi.org/10.1080/09638237.2021.1922645.

Hirt, E. R., Devers, E. E., & McCrea, S. M. (2008). I want to be creative: exploring the role of hedonic contingency theory in the positive mood-cognitive flexibility link. *Journal of personality and social psychology*, *94*(2), 214-230. https://doi.org/10.1037/0022-3514.94.2.94.2.214.

Hochberg, Z. E., & Konner, M. (2020). Emerging Adulthood, a Pre-adult Life-History Stage. *Frontiers in endocrinology*, *10*, 918. https://doi.org/10.3389/fendo.2019.00918.

Holtzheimer, P. E., & Mayberg, H. S. (2011). Stuck in a rut: rethinking depression and its treatment. *Trends in neurosciences*, *34*(1), 1-9. https://doi.org/10.1016/j.tins.2010.10.004.

Hou, Z., Sui, Y., Song, X., & Yuan, Y. (2016). Disrupted interhemispheric synchrony in default mode network underlying the impairment of cognitive flexibility in late-onset depression. *Frontiers in aging neuroscience*, *8*, 230.

https://doi.org/10.3389/fnagi.2016.00230.

Hunter, S. J., & Sparrow, E. P. (2012). Models of executive functioning. *Executive function and dysfunction*, 5-16. https://doi.org/10.1017/CBO9780511977954.

Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: emotional and relational costs of suppressing emotions in romantic relationships. *Personality & social psychology bulletin*, *38*(6), 707–720. https://doi.org/10.1177/0146167212437249.

Institute of Medicine of the National Academics (2014). *Investing in the health and well-being of young adults.* Available at: www.nationalacademies.org/ hmd/w/media/Files/Report Files/2014/YAYAreportbrief.pdf.

Ionescu, T. (2012). Exploring the nature of cognitive flexibility. *New Ideas in Psychology, 30*(2), 190–200. https://doi.org/10.1016/j.newideapsych.2011.11.001.

Isen, A. M. (2008). Some ways in which positive affect influences decision making and problem solving. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 548–573). The Guilford Press.

Jack, D. C., & Dill, D. (1992). The silencing the self scale: Schemas of intimacy associated with depression in women. *Psychology of Women Quarterly*, 16(1), 97–106. doi:10.1111/j.1471-6402.1992.tb00242.x.

Janiri, D., Moccia, L., Conte, E., Palumbo, L., Chieffo, D. P. R., Fredda, G., ... & Janiri, L. (2021). Emotional dysregulation, temperament and lifetime suicidal ideation among youths with mood disorders. *Journal of Personalized Medicine*, *11*(9), 865. https://doi.org/10.3390/jpm11090865.

Jankowski, K. F., & Takahashi, H. (2014). Cognitive neuroscience of social emotions and implications for psychopathology: examining embarrassment, guilt, envy, and schadenfreude. *Psychiatry and clinical neurosciences*, *68*(5), 319-336. https://doi.org/10.1111/pcn.12182.

Johnstone, T., & Walter, H. (2014). The neural basis of emotion dysregulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 58–75). The Guilford Press.

Kanazawa, S., & Savage, J. (2009). An evolutionary psychological perspective on social capital. *Journal of Economic Psychology*, *30*(6), 873-883. https://doi.org/10.1016/j.joep.2009.08.002.

Kalia, V., & Knauft, K. (2020). Emotion regulation strategies modulate the effect of adverse childhood experiences on perceived chronic stress with implications for cognitive flexibility. *PloS one*, *15*(6), e0235412. https://doi.org/10.1371/journal.pone.0235412.

Kanske, P. (2012). On the influence of emotion on conflict processing. *Frontiers in Integrative Neuroscience*, *6*, 42. https://doi.org/10.3389/fnint.2012.00042.

Karreman, A., & Vingerhoets, A. J. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual differences*, *53*(7), 821-826. https://doi.org/10.1016/j.paid.2012.06.014.

Kearns, S. M., & Creaven, A. M. (2017). Individual differences in positive and negative emotion regulation: Which strategies explain variability in loneliness? *Undefined*, *11*(1), 64–74. https://doi.org/10.1002/PMH.1363.

Kharsati, N., & Bhola, P. (2015). Patterns of non-suicidal self-injurious behaviours among college students in India. *The International Journal of Social Psychiatry*, *61*(1), 39–49. https://doi.org/10.1177/0020764014535755.

Klonsky, E. D., & Olino, T. M. (2008). Identifying clinically distinct subgroups of self-injurers among young adults: A latent class analysis. *Journal of Consulting and Clinical Psychology, 76*(1), 22–27. https://doi.org/10.1037/0022-006X.76.1.22.

Kring, A. M., & Werner, K. H. (2004). Emotion Regulation and Psychopathology. In P. Philippot & R. S. Feldman (Eds.), *The regulation of emotion* (pp. 359–385). Lawrence Erlbaum Associates Publishers.

Layden, E. A., Cacioppo, J. T., Cacioppo, S., Cappa, S. F., Dodich, A., Falini, A., & Canessa, N. (2017). Perceived social isolation is associated with altered functional connectivity in neural networks associated with tonic alertness and executive control. *Neuroimage*, *145*, 58-73. https://doi.org/10.1016/j.neuroimage.2016.09.050.

Lee, J. (2022). *Family Invalidation and Cognitive Flexibility within Asian Young Adults* (Doctoral dissertation, Long Island University, CW Post Center).

Lin, W. L., Tsai, P. H., Lin, H. Y., & Chen, H. C. (2014). How does emotion influence different creative performances? The mediating role of cognitive flexibility. *Cognition & emotion*, *28*(5), 834-844. https://doi.org/10.1080/02699931.2013.854195.

von der Lippe, A., Eilertsen, D. E., Hartmann, E., & Killèn, K. (2010). The role of maternal attachment in children's attachment and cognitive executive functioning: A preliminary study. *Attachment & Human Development, 12*(5), 429-444. https://doi.org/10.1080/14616734.2010.501967.

Mackie, M. A., Van Dam, N. T., & Fan, J. (2013). Cognitive control and attentional functions. *Brain and cognition*, *82*(3), 301-312.https://doi.org/10.1016/j.bandc.2013.05.004.

MacLeod, K. B., & Brownlie, E. B. (2014). Mental health and transitions from adolescence to emerging adulthood: Developmental and diversity considerations. *Canadian Journal of Community Mental Health, 33*(1), 77–86. https://doi.org/10.7870/cjcmh-2014-007.

Mailis, A., & Lakha, S. F. (2019). From (Ontario Ministry of Health and Long-Term Care) policy to implementation: A retrospective look at a community-based patient-centered model of care for chronic pain. *Canadian journal of pain = Revue canadienne de la douleur*, *3*(1), 114–125. https://doi.org/10.1080/24740527.2019.1614880.

Marko, M., & Riečanský, I. (2018). Sympathetic arousal, but not disturbed executive functioning, mediates the impairment of cognitive flexibility under stress. *Cognition*, *174*, 94–102. https://doi.org/10.1016/J.COGNITION.2018.02.004.

Martin, M. M., Staggers, S. M., & Anderson, C. M. (2011). The relationships between cognitive flexibility with dogmatism, intellectual flexibility, preference for consistency, and self-compassion. *Communication Research Reports*, *28*(3), 275-280. https://doi.org/10.1080/08824096.2011.587555.

McLaughlin, K. A., Hatzenbuehler, M. L., Mennin, D. S., & Nolen-Hoeksema, S. (2011). Emotion dysregulation and adolescent psychopathology: A prospective study. *Behaviour research and therapy*, *49*(9), 544-554. https://doi.org/10.1016/j.brat.2011.06.003.

Melchior, M., Chastang, J. F., Goldberg, P., & Fombonne, E. (2008). High prevalence rates of tobacco, alcohol and drug use in adolescents and young adults in France: results from the GAZEL Youth study. *Addictive behaviors*, *33*(1), 122-133. https://doi.org/10.1016/j.addbeh.2007.09.009.

Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World Psychiatry*, *11*(1), 11-15. https://doi.org/10.1016/j.wpsyc.2012.01.003.

Mikulincer, M., & Shaver, P. R. (2016). Attachment in adulthood: Structure, dynamics, and change (2nd ed.). New York, Guilford Press.

Mikulincer, M., Shaver, P. R., & Solomon, Z. (2015). An attachment perspective on traumatic and posttraumatic reactions. In M. P. Safir, H. S. Wallach, & S. Rizzo (Eds.), Future directions in post-traumatic stress disorder: Prevention, diagnosis, and treatment (pp. 79–96). New York: Springer Press. https://doi.org/10.1007/978-1-4899-7522-5_4.

Mitra, D., & Arnett, J. J. (2019). Life choices of emerging adults in India. *Emerging adulthood*, *9*(3), 229-239. https://doi.org/10.1177/2167696819851.

Moore, A., & Malinowski, P. (2009). Meditation, mindfulness and cognitive flexibility. *Consciousness and cognition*, *18*(1), 176-186. https://doi.org/10.1016/j.concog.2008.12.008.

Murphy, F. C., Michael, A., & Sahakian, B. J. (2012). Emotion modulates cognitive flexibility in patients with major depression. *Psychological medicine*, *42*(7), 1373-1382. doi:10.1017/S0033291711002418.

Naud, C., Lussier, Y., Sabourin, S., Normandin, L., Clarkin, J. F., & Kernberg, O. F. (2013). How attachment and excessive self-sacrificing depressive dynamics are related to couple relationship satisfaction over time. Couple and Family Psychology: Research and Practice, 2, 14–33. https://doi.org/10.1037/a0031705.

National Crime Records Bureau, 2021. *Accidental Deaths and Suicides in India.* 2021. Available from: https://ncrb.gov.in.

Ochsner, K. N., & Gross, J. J. (2005). The cognitive control of emotion. *Trends in cognitive sciences*, *9*(5), 242-249. https://doi.org/10.1016/j.tics.2005.03.010.

Ochsner, K. N., Silvers, J. A., & Buhle, J. T. (2012). Functional imaging studies of emotion regulation: a synthetic review and evolving model of the cognitive control of emotion. *Annals of the New York Academy of Sciences*, *1251*, E1–E24. https://doi.org/10.1111/j.1749-6632.2012.06751.x.

O'Connor, L. E., Berry, J. W., & Weiss, J. (1999). Interpersonal guilt, shame, and psychological problems. *Journal of Social and Clinical Psychology, 18*(2), 181–203. https://doi.org/10.1521/jscp.1999.18.2.181.

Olsson, C. A., Moyzis, R. K., Williamson, E., Ellis, J. E., Parkinson-Bates, M., Patton, G. C., et al. (2013). Gene–environment interaction in problematic substance use: Interaction between DRD4 and insecure attachments. Addiction Biology, 18(4), 717–726. https://doi.org/10.1111/j.1369-1600.2011.00413.x.

Ozeren G. S. (2022). The correlation between emotion regulation and attachment styles in undergraduates. *Perspectives in psychiatric care, 58*(2), 482-490. https://doi.org/10.1111/ppc.12902.

Preece, D. A., Goldenberg, A., Becerra, R., Boyes, M., Hasking, P., & Gross, J. J. (2021). Loneliness and emotion regulation. *Personality and Individual Differences*, *180*, 110974. https://doi.org/10.1016/j.paid.2021.110974.

Pressman, S. D., Cohen, S., Miller, G. E., Barkin, A., Rabin, B. S., & Treanor, J. J. (2005). Loneliness, social network size, and immune response to influenza vaccination in college freshmen. *Health Psychology*, *24*(3), 297-306. https://doi.org/10.1037/0278-6133.24.3.297.

Rawana, J. S., Flett, G. L., McPhie, M. L., Nguyen, H. T., & Norwood, S. J. (2014). Developmental trends in emotion regulation: A systematic review with implications for community mental health. *Canadian Journal of Community Mental Health*, *33*(1), 31-44. https://doi.org/10.7870/cjcmh-2014-004.

Raznahan, A., Shaw, P., Lalonde, F., Stockman, M., Wallace, G. L., Greenstein, D., Clasen, L., Gogtay, N., & Giedd, J. N. (2011). How does your cortex grow?. *The Journal of Neuroscience,* 31(19), 7174-7177. https://doi.org/10.1523/JNEUROSCI.0054-11.2011.

Rindfuss R. R. (1991). The young adult years: diversity, structural change, and fertility. *Demography*, *28*(4), 493–512. https://doi.org/10.2307/2061419.

Ruocco, A. C. (2005). The neuropsychology of borderline personality disorder: A meta-analysis and review. *Psychiatry Research, 137*(3), 191-202. https://doi.org/10.1016/j.psychres.2005.07.004.

Saferstein, J. A., Neimeyer, G. J., & Hagans, C. L. (2005). Attachment as a predictor of friendship qualities in college youth. *Social Behavior and Personality: an international journal*, *33*(8), 767-776. https://doi.org/10.2224/sbp.2005.33.8.767.

Salande, J. D., & Hawkins, R. C. II. (2017). Psychological flexibility, attachment style, and personality organization: Correlations between constructs of differing approaches. *Journal of Psychotherapy Integration, 27*(3), 365–380. https://doi.org/10.1037/int0000037.

Sameroff, A. J. (2000). Developmental systems and psychopathology. *Development and psychopathology*, *12*(3), 297-312. doi:10.1017/S0954579400003035.

Savard, C., Brassard, A., Lussier, Y., & Sabourin, S. (2015). Subclinical psychopathic traits and romantic attachment in community couples: A dyadic approach. Personality and Individual Differences, 72, 128–134. https://doi.org/10.1016/j.paid.2014.08.014.

Schulenberg, J. E., Sameroff, A. J., & Cicchetti, D. (2004). The transition to adulthood as a critical juncture in the course of psychopathology and mental health. *Development and psychopathology*, *16*(4), 799–806. https://doi.org/10.1017/s0954579404040015.

Seligowski, A. v., Lee, D. J., Bardeen, J. R., & Orcutt, H. K. (2015). Emotion regulation and posttraumatic stress symptoms: a meta-analysis. *Cognitive Behaviour Therapy*, *44*(2), 87–102. https://doi.org/10.1080/16506073.2014.980753.

Segerstrom, S. C., Stanton, A. L., Alden, L. E., & Shortridge, B. E. (2003). A multidimensional structure for repetitive thought: what's on your mind, and how, and how much? *Journal of*

Personality and Social Psychology, *85*(5), 909–921. https://doi.org/10.1037/0022-3514.85.5.909.

Shao, R., Liu, H. L., Huang, C. M., Chen, Y. L., Gao, M., Lee, S. H., ... & Lee, T. M. (2020). Loneliness and depression dissociated on parietal-centered networks in cognitive and resting states. *Psychological Medicine*, *50*(16), 2691-2701. https://doi.org/10.1017/S0033291719002782.

Shavit, Y., & Tolmacz, R. (2014). Pathological concern: Scale construction, construct validity, and associations with attachment, self-cohesion, and relational entitlement. *Psychoanalytic Psychology, 31*(3), 343–356. https://doi.org/10.1037/a0036560.

Sibley, C. G., Fischer, R., & Liu, J. H. (2005). Reliability and validity of the revised experiences in close relationships (ECR-R) self-report measure of adult romantic attachment. *Personality and social psychology bulletin*, *31*(11), 1524-1536. https://doi.org/10.1177/0146167205276865.

Simpson, J. A., Rholes, W. S., Campbell, L., Tran, S., & Wilson, C. L. (2003). Adult attachment, the transition to parenthood, and depressive symptoms. *Journal of personality and social psychology*, *84*(6), 1172.-1187. https://doi.org/10.1037/0022-3514.84.6.1172.

Sroufe, L. A. (1997). Psychopathology as an outcome of development. *Development and psychopathology*, *9*(2), 251-268. doi:10.1017/S0954579497002046.

Stahl, L., & Pry, R. (2005). Attentional flexibility and perseveration: Developmental aspects in young children. *Child Neuropsychology*, *11*(2), 175-189. https://doi.org/10.1080/092970490911315.

Stemme, A., Deco, G., & Busch, A. (2007). The neuronal dynamics underlying cognitive flexibility in set shifting tasks. *Journal of computational neuroscience*, *23*(3), 313-331. https://doi.org/10.1007/s10827-007-0034-x.

Stevens, A. D. (2009). *Social problem-solving and cognitive flexibility: Relations to social skills and problem behavior of at-risk young children*. Seattle Pacific University.

Sydnor, V. J., Larsen, B., Bassett, D. S., Alexander-Bloch, A., Fair, D. A., Liston, C., Mackey, A. P., Milham, M. P., Pines, A., Roalf, D. R., Seidlitz, J., Xu, T., Raznahan, A., & Satterthwaite, T. D. (2021). Neurodevelopment of the association cortices: Patterns, mechanisms, and implications for psychopathology. *Neuron*, *109*(18), 2820–2846. https://doi.org/10.1016/j.neuron.2021.06.016.

Tammilehto, J., Bosmans, G., Kuppens, P., Flykt, M., Peltonen, K., Kerns, K. A., & Lindblom, J. (2022). Dynamics of attachment and emotion regulation in daily life: uni-and bidirectional associations. *Cognition and Emotion,36*(6), *1109-1131.* https://doi.org/10.1080/02699931.2022.2081534.

Tangney, J. P., & Tracy, J. L. (2012). Self-conscious emotions. In M. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (2nd ed., pp. 446-478). New York, NY, USA: Guilford Press.

Tao, Y., Luo, D., Deng, T., & Ma, X. (2021, June). The Influence of Guilt Emotion on Cognitive Flexibility. Proceedings of the *2021 2nd International Conference on Mental Health and Humanities Education*, 579-583. Atlantis Press. https://doi.org/10.2991/assehr.k.210617.142.

Taylor, P. J., Rietzschel, J., Danquah, A., & Berry, K. (2015). The role of attachment style, attachment to therapist, and working alliance in response to psychological therapy. *Psychology and Psychotherapy: Theory, research and practice*, *88*(3), 240-253. https://doi.org/10.1111/papt.12045.

Taber-Thomas B., Perez-Edgar K. (2016). Emerging adulthood brain development. In Arnett J. J (Ed.), *The Oxford handbook of emerging adulthood* (pp. 126–141). New York, NY: Oxford University Press.

Wang, J., & Wang, X. (2021). Sample size calculation for linear mixed models in longitudinal studies. BMC Medical Research Methodology, 21(1), 1-10.

Wolkenstein, L., Sommerhoff, A., & Voss, M. (2022). Positive emotion dysregulation in posttraumatic stress disorder. *Journal of Anxiety Disorders*, *86*, 102534. https://doi.org/10.1016/j.janxdis.2022.102534.

Tchanturia, K., Harrison, A., Davies, H., Roberts, M., Oldershaw, A., Nakazato, M., Stahl, D., Morris, R., Schmidt, U., & Treasure, J. (2011). Cognitive flexibility and clinical severity in eating disorders. *PloS one*, *6*(6), e20462. https://doi.org/10.1371/journal.pone.0020462.

Tian, Y., Yang, L., Chen, S., Guo, D., Ding, Z., Tam, K. Y., & Yao, D. (2017). Causal interactions in resting-state networks predict perceived loneliness. *PLOS ONE*, *12*(5), e0177443. https://doi.org/10.1371/JOURNAL.PONE.0177443.

Tolmacz, R., Friedemann, Y., Doron, Y., & Gerber, Z. (2019). Narcissism and concern for others: A contradiction in terms? *Current Psychology 2019 40:4*, *40*(4), 1814–1823. https://doi.org/10.1007/S12144-018-0113-3.

Tolmacz, R., Lev-Ari, L., & Bachner-Melman, R. (2021). Refining the Assessment of Entitlement in Romantic Relationships: The Sense of Relational Entitlement Scale—Revised (SRE-R). *Frontiers in Psychology*, *12*, 4265. https://doi.org/10.3389/fpsyg.2021.744618.

Tolmacz, R., Cohen, R., Leiman, R., & Gerber, Z. (2022). The Association between Attachment Orientation and Relationship Authenticity and Satisfaction: The Mediating Role of Concern. *North American Journal of Psychology*, *23*(1). 27-44.

Tolmacz, R., Bachner-Melman, R., Lev-Ari, L., & Almagor, K. (2022). Interparental conflict and relational attitudes within romantic relationships: The mediating role of attachment orientations. *Journal of Social and Personal Relationships*, *39*(6), 1648-1668.https://doi.org/10.1177/026540752110616.

Thompson, R. A. (2014). Socialization of emotion and emotion regulation in the family. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 173–186). The Guilford Press.

Thorberg, F. A., Young, R. M. D., Sullivan, K. A., & Lyvers, M. (2009). Alexithymia and alcohol use disorders: a critical review. *Addictive Behaviors, 34(3), 237-245.* https://doi.org/10.1016/J.ADDBEH.2008.10.016.

Tracy, J. L., & Robins, R. W. (2004). "Putting the Self Into Self-Conscious Emotions: A Theoretical Model". *Psychological inquiry*, *15*(2), 103-125. https://doi.org/10.1207/s15327965pli1502_01.

Troyer, D., & Greitemeyer, T. (2018). The impact of attachment orientations on empathy in adults: Considering the mediating role of emotion regulation strategies and negative affectivity. *Personality and Individual Differences*, *122*, 198-205. https://doi.org/10.1016/j.paid.2017.10.033.

Tull, M. T., Barrett, H. M., McMillan, E. S., & Roemer, L. (2007). A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behavior therapy, 38*(3), 303-313. https://doi.org/10.1016/j.beth.2006.10.001.

Wearden, A., Perryman, K., & Ward, V. (2006). Adult attachment, reassurance seeking and hypochondriacal concerns in college students. *Journal of health psychology*, *11*(6), 877-886. https://doi.org/10.1177/1359105306069086.

Wei, M., Heppner, P. P., Russell, D. W., & Young, S. K. (2006). Maladaptive perfectionism and ineffective coping as mediators between attachment and future depression: A prospective analysis. *Journal of Counseling Psychology*, *53*(1), 67-79. https://doi.org/10.1037/0022-0167.53.1.67.

Wong, N. M., Mabel-Kenzie, S. T., Lin, C., Huang, C. M., Liu, H. L., Lee, S. H., & Lee, T. M. (2022). Meta-analytic evidence for the cognitive control model of loneliness in emotion processing. *Neuroscience & Biobehavioral Reviews*, 138, 104686. https://doi.org/10.1016/j.neubiorev.2022.104686.

Wood, D., Crapnell, T., Lau, L., Bennett, A., Lotstein, D., Ferris, M., & Kuo, A. (2018). Emerging adulthood as a critical stage in the life course. *Handbook of life course health development*, 123-143.

Yarbro, J., Mahaffey, B., Abramowitz, J., & Kashdan, T. B. (2013). Recollections of parent–child relationships, attachment insecurity, and obsessive–compulsive beliefs. *Personality and Individual Differences*, *54*(3), 355-360. https://doi.org/10.1016/j.paid.2012.10.003.

Zaehringer, J., Falquez, R., Schubert, A. L., Nees, F., & Barnow, S. (2018). Neural correlates of reappraisal considering working memory capacity and cognitive flexibility. *Brain Imaging and Behavior*, *12*(6), 1529-1543. https://doi.org/10.1007/s11682-017-9788-6.

Zhu, R., Wu, H., Xu, Z., Tang, H., Shen, X., Mai, X., & Liu, C. (2019). Early distinction between shame and guilt processing in an interpersonal context. *Social neuroscience*, *14*(1), 53-66. https://doi.org/10.1080/17470919.2017.1391119.

Zimmermann, P., & Iwanski, A. (2014). Emotion regulation from early adolescence to emerging adulthood and middle adulthood: Age differences, gender differences, and emotion-specific developmental variations. *International Journal of Behavioral Development, 38*(2), 182–194. https://doi.org/10.1177/0165025413515405.

MANAV RACHNA
Vidyanatariksha

Dr. O.P. Bhalla Central Library
Manav Rachna International Institute of Research and Studies
(A deemed-to-be-university under section 3 of UGC Act 1956)

SIMILARITY VERIFICATION CERTIFICATE

Title: EMOTION DYSREGULATION, COGNITIVE FLEXIBILITY, AND PATHOLOGICAL CONCERN: MODERATING ROLE OF ATTACHMENT STYLE

Researcher: SHUBHAM GUPTA

Registration Number: 21/Ph.D/096

Supervisor: DR. PRIYANKA TIWARI

Department: APPLIED PSYCHOLOGY

This is to certify that the above mentioned Short Synopsis/Thesis was scanned for similarity index through Turnitin Software on 12/9/25 with submission ID 33370319 49 and the similarity index was found to be 9 %. The complete report running into 48 Pages, 11,163 Word count with File Size 196.2 KB/MB is being forwarded to the Research Supervisor/DRC/DRB for review.

Date: 13/9/25

Dr. Rajesh Kumar
University Librarian
Dr. O.P. Bhalla Central Library
Manav Rachna International
Institute of Research & Studies
Faridabad

for Rajesh 13/9/25

The complete report of the above Short Synopsis/Thesis has been reviewed and the similarity index is below the accepted norms as per the University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations 2018. The Short Synopsis/Thesis may be considered for further processing

Shubham Gupta
Research Scholar

Priyanka Tiwari
Research Supervisor

Shubham Gupta

EMOTION DYSREGULATION, COGNITIVE FLEXIBILITY, AND PATHOLOGICAL CONCERN: MODERATING ROLE OF ATTACHM...

Quick Submit

Quick Submit

Manav Rachna International University

Dr. Rajesh Kumar
University Librarian
Dr. O.P. Bhalla Central Library
Manav Rachna International
Institute of Research & Studies
Faridabad
For Reg
13/9/25

Document Details

Submission ID
trn:oid:::1:3337031949

Submission Date
Sep 12, 2025, 5:20 PM GMT+5:30

Download Date
Sep 12, 2025, 5:24 PM GMT+5:30

File Name
ND_PATHOLOGICAL_CONCERN_MODERATING_ROLE_OF_ATTACHMENT_STYLE.docx

File Size
196.2 KB

48 Pages

11,163 Words

72,433 Characters

9% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Small Matches (less than 14 words)

Dr. Rajesh Kumar
University Librarian
Dr. O.P. Bhalla Central Library
Manav Rachna International
Institute of Research & Studies
Faridabad
For Rising
13/9/25

Match Groups

- 7 Not Cited or Quoted 2%
  Matches with neither in-text citation nor quotation marks
- 11 Missing Quotations 3%
  Matches that are still very similar to source material
- 1 Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- 9 Cited and Quoted 4%
  Matches with in-text citation present, but no quotation marks

Top Sources

- 4% Internet sources
- 5% Publications
- 4% Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

Match Groups

- 7 Not Cited or Quoted 2%
  Matches with neither in-text citation nor quotation marks
- 11 Missing Quotations 3%
  Matches that are still very similar to source material
- 1 Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- 9 Cited and Quoted 4%
  Matches with in-text citation present, but no quotation marks

Top Sources

- 4% Internet sources
- 5% Publications
- 4% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Publication	Kashish Pandey, Shruti Narain, Azmat Jahan. "Development and Validation of the ... 1%
2	Student papers	University of Lancaster 1%
3	Internet	www.researchgate.net <1%
4	Publication	Lee, Jennifer. "Family Invalidation and Cognitive Flexibility within Asian Young Ad... <1%
5	Publication	Nichol M.L. Wong, Sammi T.S.T. Mabel-Kenzie, Chemin Lin, Chih-Mao Huang, Ho-L... <1%
6	Internet	www.edam.com.tr <1%
7	Publication	King, Breanna. "Secondary Traumatic Stress and Post-Traumatic Growth: The Mo... <1%
8	Internet	vsip.info <1%
9	Internet	mafiadoc.com <1%
10	Student papers	Rutgers University, New Brunswick <1%

11 Publication

Kashish Pandey, Khusboo K, Azmat Jahan. "The Moderating Role of Metacognitio... <1%

12 Student papers

National Louis University <1%

13 Publication

Zach Gerber, Rami Tolmacz, Yonit Doron. "Self-compassion and forms of concern ... <1%

14 Internet

file.techscience.com <1%

15 Internet

precisionconsultingcompany.com <1%

16 Internet

theses.fr <1%

17 Student papers

Macquarie University <1%

18 Student papers

Rochester Institute of Technology <1%

19 Publication

Woodward, Emma Carolyn. "Parental Socialization of Emotion and Anxiety Amon... <1%

20 Publication

Rami Tolmacz, Lilac Lev-Ari, Rachel Bachner-Melman. "Refining the Assessment o... <1%

21 Internet

www.tesisenred.net <1%

EMOTION DYSREGULATION, COGNITIVE FLEXIBILITY, AND PATHOLOGICAL CONCERN: MODERATING ROLE OF ATTACHMENT STYLE

SHORT SYNOPSIS

by

Shubham Gupta
Registration number: 21/Ph.D./096

Under the supervision of

Dr. Priyanka Tiwari
Professor & Head, Department of Applied Psychology

SCHOOL OF BEHAVIOURAL AND SOCIAL SCIENCES

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH & STUDIES

SECTOR-43, SURAJKUND –DELHI ROAD, FARIDABAD – 121001

ABSTRACT

Emerging adulthood is a dynamic phase of life where an adolescent transforms into an adult. It involves internal (biological, cognitive, emotional) and external (transitions in love, work, view towards world) changes among individuals (Mitra & Arnett, 2019). A plethora of studies have studied these changes and observed that emotion dysregulation, cognitive flexibility, attachment styles and pathological concern are majorly impacted during this time (Dennis & Wal, 2010; Savard et al., 2015; Tolmacz et al., 2019; Zimmermann & Iwanski, 2014). These areas further increase the vulnerability towards psychopathology among individuals. But the association between these constructs have not been explored in depth. The current research addresses this gap by studying the moderating role of attachment style on the relationship between emotion dysregulation, cognitive flexibility, and pathological concern in 500 emerging adults. It will be using the correlational research design. The tools in this research include Difficulties in Emotion Regulation Scale, Cognitive Flexibility

Inventory, Measure of Attachment Style, and Pathological Concern Questionnaire. Descriptive statistics will be used to explain the demographic information. SPSS and Hayes PROCESS will be employed for doing the moderation analysis. It is expected that attachment style may moderate the relationships between the variables.

Keywords: Emerging adulthood, Emotion dysregulation, cognitive flexibility, pathological concern, attachment style

Introduction

Emerging adulthood is a time period (18-25 years) where the transition from adolescence to young adulthood occurs (Arnett, 2000). This period of development differs demographically, subjectively and in context with exploring identities. In India, the age range for emerging adulthood is from 18-29 years (Mitra & Arnett, 2019).

Various studies have reported that youth aged 15 to 24 years tend to experience mental illness more than other age groups (MacLeod & Brownlie, 2014). A report by the Institute of Medicine of the National Academics (2014) have shown similar findings where emerging adults (18-26 years) had higher mental health concerns. The reason of facing various health concerns could be due to the stress of new educational, work, and relationship circumstances (Melchior et al., 2007).

In addition, numerous researches have observed that though childhood experiences are important, their impact is often mediated by experiences occurring later in life (Curtis & Cicchetti, 2003; Schulenberg, Sameroff & Cicchetti, 2004; Sroufe, 1997). The reason could be that development is seen as a function of interactions of individual and environment leading to occurrence of various changes during transitional phase, thus impacting overall health and wellbeing of adults (Cicchetti & Rogsch, 2002; Sameroff, 2000).

Various studies have reported that emerging adults tend to have higher emotion dysregulation levels, and difficulty in managing emotions among them can result in depressive disorders & delinquency in the long run (Caprara et al., 2010; Zimmermann & Iwanski, 2014). Moreover, cognitive flexibility is observed to decline as individual reach adulthood (Anderson, 2002; Stahl & Pry, 2005), and it is linked with clinical features like rumination, depressive symptoms, eating disorders (Davis & Nolen-Hoeksema, 2000; Dennis & Wal, 2010; Tchanturia et al., 2011). In addition to this, many studies have found that insecurely attached emerging individuals are vulnerable to depressive symptoms, antisocial tendencies, substance use, criminal behaviours, psychopathic traits, and pathological personality features (Cantazaro & Wei, 2010; Craig, Gray, & Snowden, 2013; Crawford et

al., 2007; Doron et al., 2009; Olsson et al., 2013; Savard et al., 2015). Researches have also observed that pathological concern is linked with attachment insecurities, issues in self-esteem, well-being, emotional and interpersonal difficulties, lower levels of psychological need fulfillment, and self-compassion (Gerber et al., 2015; Shavit & Tolmacz, 2014).

Emotion regulation refers to "the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998, 2014, 2015). The main components include awareness of emotions, evaluation or appraisal of emotions based on the context or cultural expectations & changing the emotions based on the appraisal (Thompson, 2014). It primarily targets two components of emotions namely valence (positive or negative) and emotional arousal (dynamics of emotions). The dynamics of emotion are inclusive of changing the intensity (high or low), responding emotionally (in terms of behavior, physiology, experience) and duration of an emotional response. Emotion dysregulation is defined as "patterns of emotional experience or expression that interfere with goal-directed activity" (Thompson, 2019).

Cognitive flexibility is defined as "the ability to recognize and adapt to various situational demands, shift mindsets or behavioural repertoires when one's social or personal functioning are compromised, and maintain balance among life domains" (Kashdan and Rottenberg, 2010). It is also defined as "adjusting to specific situations, the ability to pass from one idea to another idea or the capacity to consider various problems in terms of multi-dimensions" (Gunduz, 2013; Stevens, 2009).

Attachment is defined as "a strong, affectionate tie we have with special people in our lives that leads us to experience pleasure and joy when we interact with them and to be comforted by their nearness in times of stress" (Berk, 2013). It is a behavioural pattern which is formed when individuals interact with attachment figures (Fraley & Shaver, 2000).

Pathological concern is a "phenomenon characterized by an individual being compulsively concerned for other people's welfare while denying his or her own feelings and

needs" (Shavit & Tolmacz, 2014). It includes two features including denial and repression of one's needs and overinvestment in order to satisfy other people's needs.

Literature Review

The following section focuses on the literature relevant for this research and will involve sub-sections including influence of emotion dysregulation, attachment, cognitive flexibility in emerging adults, association of variables with one another, emerging adulthood & need of intervening in this age range, in India.

2.1 Influence of emotion dysregulation, attachment, cognitive flexibility in emerging adults

Various researches have studied how emotion dysregulation, attachment, cognitive flexibility, and pathological concern may impact emerging adulthood.

2.2 Emotion dysregulation

Various researches have stated that emotions are those aspects that increase the possibility of investing in behaviors selected evolutionary for a specific situation like the behaviors leading to survival or building of social connections, that in turn leads to the development of new generations (Al-Shawaf, 2016; Darwin, 1965). However, people may experience behavioral tendencies that can lead to inner conflicts because of incongruence and competitiveness which in turn may put an individual into a dilemma as to how one shall behave in the given situation. So, there is a need to manage emotions which involves strategies one can in dealing with a specific situation to produce a desired, specific emotional response by changing the dynamics of that situation (Gross, 2013). Emotion regulation is a phenomenon that emphasizes the need to manage emotions for effective functioning of an individual.

It consists of intrinsic and extrinsic factors or processes that help to decide the trajectory of emotion and emotional response (Thomson, 2014). These processes can stimulate or hinder the management of emotions among individuals. The intrinsic processes include cognitive or self-referential processes (personality) and biological processes (biological maturation, genetic & neurobiological), and the extrinsic processes include

socialization (family & cultural values, peers, school or college or work). Among all these processes, emotion regulation can be studied by choosing & targeting one or multiple processes to understand the impact of these processes among individuals.

A study by Zimmermann and Iwanski (2014) studied emotion regulation across different age groups and reported that emerging adults have higher emotion dysregulation and dysfunctional rumination, higher avoidance & passivity, and higher expressive suppression.

The core feature of many anxiety and mood disorders is the extended timing or duration of emotional occurrences. For example, depression should not be identified with only a low state of mind but inability to come out of this state and tendency to become stuck during this state (Holtzheimer & Mayberg, 2011; Johnstone & Walter, 2014). Also, features such as inability to engage in rewarding activities & persisting positive emotions for long periods also contribute to vulnerability towards depression. Moreover, disorders such as mood disorders, substance use disorders, anxiety disorders, eating disorders and psychotic disorders have been associated with dysregulation of emotions (Cisler et al., 2010; Harrison et al., 2009; Thorberg, Young, Sullivan, & Lyvers, 2009).

Studies have also claimed that deficits in regulating emotions or persistent use of maladaptive strategies result in various forms of psychopathology like anxiety disorders, depressive disorders, borderline personality disorder, & post-traumatic stress disorder (Glen & Klonsky, 2009; Gratz et al., 2006; Harrison et al., 2009; McLaughlin et al., 2011; Seligowski et al., 2014; Tull et al., 2007).

2.3 Cognitive flexibility

Cognitive flexibility is the ability to adjust one's behaviour effectively in relation with the changing environment (Armbruster et al., 2012). It is an imminent component of executive functioning which promotes goal-directed behaviours like creativity, decision making, and problem solving (Dajani & Uddin, 2015; Gabyrs et al., 2018; Ionescu, 2012). Also, higher cognitive flexibility is associated with higher resilience in adulthood (Chen et al., 2014; Genet & Siemer, 2011)

Cognitive flexibility begins to develop during childhood and adolescence; however, it begins to decline in adulthood (Anderson, 2002; Stahl & Pry, 2005). Cognitive inflexibility in adulthood is linked with clinical features like rumination (Davis & Nolen-Hoeksema, 2000) and eating disorders (Tchanturia et al., 2011). Various studies have seen that higher cognitive flexibility is linked with lower depressive symptoms Dennis & Wal, 2010; Fresco, Rytwinski & Craighead, 2007), increased tendency to use adaptive coping strategies (like problem-focused coping, seeking social support) and reduced tendency to use maladaptive strategies like wishful thinking, detachment in emerging adults (Dennis & Wal, 2010).

2.4 Attachment

Attachment is a strong bond individuals have with special people in their lives due to which they experience pleasure and joy when they interact with those special people and feel comforted by their nearness in times of stress (Berk, 2013). Through attachment, individuals use people they seek closeness to as a safe shelter (attachment figure) in times of stressful events and they serve as a secure base from which individuals tend to explore (Fraley, 2019). "Attachment style is relatively a stable pattern of thoughts, feelings, and behaviour people exhibit in the context of their interpersonal relationships".

It is seen that appraisal of attachment figures as responsive and available tends to strengthen emotional stability, adjustment levels personally and socially, satisfaction in close relationships, and independent personal growth (Mikulincer & Shaver, 2016). Secure individuals exhibit reduced vulnerability to psychopathology symptoms, and have higher commitment in relationships (Gillath, Karantzas & Fraley, 2016; Mikulincer & Shaver, 2016). However, insecure people tend to be self-critical, have higher levels of self-doubt, and are vulnerable to shield themselves in order to deal with feelings of worthlessness and hopelessness (Wei et al., 2006; Mikulincer & Shaver, 2012). This in turn may increase the risk of psychopathology among individuals.

Moreover, anxious, and avoidant attached individuals are prone to depressive symptoms, antisocial tendencies, substance use, criminal behaviour, psychopathic traits, and pathological personality features in emerging and young adults (Cantazaro & Wei, 2010; Craig, Gray, & Snowden, 2013; Doron et al., 2012; Olsson et al., 2013; Savard et al., 2015).

In emerging adulthood, it is seen that anxiously attached individuals view relationships as a source of anxiety and thus are fearful of relationship loss and abandonment while avoidantly attached individuals feel a sense of discomfort in their relationships and thus tend to be resistant to depend on others for any kind of support (Fraley & Shaver, 2000; Sibley, Fischer & Liu, 2005). Also, attachment anxiety and attachment avoidance are positively linked with interpersonal problems, higher conflicts, reduced relationship quality and security in friendships in this developmental phase (Saferstein, Neimeyer & Hagans, 2005).

Studies have reported that early experiences are not a clear indication of individuals to become secure or insecure adults (Fraley & Roisman, 2019). Supportive caregiving paves the roadway to transit from adolescence to adulthood but it does not ensure secure attachment style. Attachment styles tend to change depending on the environment and relationships. The change may depend on various factors including transition to parenthood (Feeney et al., 2003; Simpson et al., 2003), conflicts and support in relationships (Chow, Ruhl & Buhrmester, 2016; Green, Furrer & McAllister, 2011) and therapy (Taylor et al., 2015).

2.5 Pathological concern

"Pathological concern is a phenomenon wherein an individual is compulsively concerned about other people's welfare while denying his or her own feelings and needs" (Shavit & Tolmacz, 2014).

People with pathological concern have difficulty trusting other individuals due to which they tend to invest in relationships where they hide their needs and focus on other's needs to maintain the relationship. This protects them from disappointments and expectations

but it results in building loneliness and hopelessness within these individuals, which in turn may lead to pathology (Shavit & Tolmacz, 2014).

Individuals with pathological concern tend to have an irresistible desire to be needed due to which they may suppress their own needs (of enjoyment, pleasure, intimacy) and feelings (of being unloved, abandoned, alone), experience loneliness, physical exhaustion, feel emotionally empty, hide past traumatic events and current problems, avoid conflicts and emotional expression of negative emotions, and focus on fulfilling others' needs. Moreover, one's sense of self among these individuals is defined by devaluing & inhibiting one's own needs and feelings, evaluating self by how others perceive the individual, putting others' feelings as priority to maintain relationships, inhibiting self-expression, and exhibiting external compliance to belong (Jack, 1991, 1992; Shavit & Tolmacz, 2014).

Various researches have seen that pathological concern is linked with many concerns like attachment insecurities, low well-being, emotional and interpersonal difficulties (Shavit & Tolmacz, 2014), covert narcissism (Tolmacz et al., 2019), lower self-compassion levels (Gerber et al., 2015).

A study by Tolmacz et al., (2019) on adults observed that narcissism has an association with pathological concern. Covert narcissism was linked with higher pathological concern & lower self-compassion.

Various studies have studied the impact of different components of pathological concern resulting in diverse outcomes. Like, loneliness is linked with depression (Hawkley & Cacioppo, 2010), affective dysregulation (Cheeta et al., 2021). It is also harmful to physical health since it results in increased cardiovascular risk, immune dysfunction, and cognitive decline (Caspi et al., 2006; Pressman et al., 2005; Bennett et al., 2006) and affects mental well-being. It is also linked with poor emotion regulation (Cacioppo et al., 2006). Moreover, feeling of emptiness is linked with anxiety, depression, and suicidal ideation (Blasco-Fontecilla et al., 2016; Klonsky, 2008).

The role played by emotion dysregulation, cognitive flexibility, attachment, and pathological concern is highly significant in emerging adulthood and it is important to understand if they have a connection with one another since they impact the development of the individuals.

2.6 Association of the variables with one another

2.7 Emotion Dysregulation and Pathological Concern

Some studies have reported indirect relationship between emotion dysregulation and pathological concern via sub components of these areas.

Few studies have reported that pathological concern is linked with reduced frequency of positive emotions, lower life satisfaction, self-esteem, and higher negative emotions and attachment insecurities in adults (Shavit & Tolmacz, 2014). Few studies have shown that focusing on others' needs while neglecting one's own needs may lead to depression (Helgeson, 1994).

Connections between guilt and emotion regulation have been found in few studies. A study by Bastin et al., (2021) observed that guilt is linked with decreased neural activity in different areas of the brain (which are responsible for rumination and memory processes) during peer feedback among emerging adults. Increase in rumination levels may lead to higher levels of emotion dysregulation among the population.

The suppression of emotions is linked with higher negative (like guilty, lonely, sad, anxious) and lower positive emotions (like joy, love, grateful, amused) in romantic relationships (Impett et al., 2012). The study also reported that the individuals suppressing emotions reported experiencing reduced levels of psychological well-being, lower life satisfaction, lower relationship satisfaction, higher conflicts in relationships and higher breaking up thoughts. From the research, it is clear how emotion suppression may impact pathological concern in adults by specifically impacting the dynamics of positive and negative emotions.

Some studies have shown associations of emotion dysregulation with loneliness. Expressive suppression has been linked with higher loneliness levels among adults (Gross & John, 2003). Loneliness is positively linked with blaming strategies, rumination, catastrophizing, withdrawal, ignoring, expressive suppression, and negatively linked with strategies including cognitive reappraisal, seeking social support, and linked with downregulation of positive emotions and upregulation of negative ones among adults (Kearns & Creaven, 2016; Preece et al., 2021). Strategies namely self-blame, blaming others, expressive suppression, rumination, expressive suppression, refocus on planning, positive reappraisal and seeking social support predicted loneliness among the adults in the same study.

There is literature showing associations between emotion dysregulation and emptiness. A study by Herron and Sani (2022) on emerging and young adults observed that many individuals shared feeling numb, not been able to cry/laugh, experience joy/sorrow, lacked purpose or meaning in life, feeling unheard, isolated, and inability to connect, to be seen and to be recognized. Individuals also shared absence of emotions and purpose to be main reasons for feeling empty.

2.8 Attachment and Pathological Concern

Many researches have examined the association of attachment and pathological concern with one another and among emerging adults.

A study by Tolmacz et al., (2022) on adults found that healthy concern, relationship satisfaction and authenticity tend to decrease as individuals become older. Individuals with regular jobs experience higher anxious attachment. Also, in this study, avoidant and anxious attachment was linked with higher pathological concern. The females were noted to be lower in avoidant attachment and pathological concern than males. This is incongruent with previous studies where females are found to be higher in pathological concern than males (Helgeson, 1994).

A study by Tolmacz, Bachner-Melman, Lev-Ari & Almagor, (2022), observed that anxious and avoidant attachment positively predicted pathological concern, and negatively predicted authenticity.

Some studies have observed that pathological concern is negatively linked with well-being, psychological needs, autonomy, relatedness, competence, self-awareness, self-determination, perceived choice and is positively linked with silencing of self, attachment avoidance, attachment anxiety, depression, stress, anxiety, loneliness, social anxiety, avoiding social situations, and rejection sensitivity (Gerber,Tomacz & Doron, 2015; Shavit & Tolmacz, 2014).

2.9 Cognitive Flexibility and Pathological Concern

Some studies have reported indirect relationship between cognitive flexibility and pathological concern via sub components of these areas.

Connections between guilt and cognitive flexibility have been noted in few research studies.

Guilt processing has been known to play a crucial role in the development and maintenance of psychopathology including depression, obsessive compulsive disorder, somatization, and anxiety (O'Connor & Berry, 1999).

A study by Tao et al., (2021) on emerging adults reported that guilt promoted cognitive flexibility. This is also contradictory to the previous studies since negative emotions tend to narrow down the attention of an individual (Compton et al., 2004; Fredrickson, 2005). This needs to be explored in future research studies.

Few studies have examined the relationship between cognitive flexibility and loneliness. It is observed that loneliness hinders affective processing because it impacts regions responsible for cognitive control (Layden et al., 2017; Shao et al., 2020; Tian et al., 2017).

2.10 Cognitive Flexibility and Emotion Dysregulation

Many studies have examined the relationship between emotion dysregulation and cognitive flexibility.

Higher cognitive control over emotions is linked with lower emotion dysregulation among adults (Lee, 2022). It is also linked with cognitive reappraisal, less rumination, and perseverative thinking (Gabrys et al., 2018). Previous studies have also reported that cognitive control is linked with reappraisal process (Ochsner & Gross, 2005; Ochsner, Silvers & Buhle, 2012).

Various studies have found that lower cognitive flexibility is linked with mood and anxiety disorders (Stemme, Deco & Busch, 2007; Moore & Malinowski, 2009) and higher cognitive flexibility is linked with fewer psychopathology symptoms (Ruocco, 2005).

2.11 Cognitive Flexibility and Attachment

Cognitive flexibility and attachment have a strong association as reported by previous researches.

Secure attachment results in development of mental executive functions (Lippe et al., 2010). A study by Hadzic and Kantar (2021) found that insecure attachment styles were negatively linked with psychological flexibility where attachment anxiety. Furthermore, obsessed attachment, anxiety, and irrational beliefs predict the decline of cognitive flexibility (Gunduz, 2013).

Few studies have seen that negligent attachment predicts higher cognitive flexibility (Gunduz, 2013) which is contradictory in nature since insecure attachment tends to decrease flexibility. The reason here could be that negligent individuals tend to prioritize autonomy and prefer handling problems on their own and this may make them flexible in dealing with situations. This needs to be explored in depth in future studies.

2.12 Emotion Dysregulation and Attachment

The association of emotion dysregulation and attachment has been studied widely in various researches.

A study by Ozeren (2022) observed that secure attachment styles were negatively linked with emotion regulation concerns, and preoccupied, fearful, and dismissing attachment styles are linked positively with emotion regulation difficulties.

The state attachment anxiety tends to predict increased rumination and is linked with higher suppression while suppression predicts increased attachment avoidance and decreased security (Tammilehto et al., 2022).

Many studies have reported that secure individuals are observed to use reappraisal more than rumination or suppression (Karreman & Vingerhoes, 2012; Troyer & Greitemeyer, 2018).

2.13 Emerging adulthood & need of intervening in emerging adults

Emerging adulthood is known to be a period where many possibilities of love, work and worldviews are explored (Erickson, 1968; Rindfuss, 1991). It is a developmental period which is culturally made where individuals progress their pathways into adulthood which includes the creation of life decisions which have long term consequences like accepting self-responsibility, responsibility towards family, parental expectations, romantic relationships, and independence/autonomy (Arnett, 2000, 2006; Mitra & Arnett, 2019). Individuals explore their identities independently and this exploration is highest during this phase of life (Arnette, 2000; Wood et al., 2018).

However, these individuals experience a dilemma of whether they are adults or not. And this dilemma and progression in this period depends upon the existing personal, social, and family resources and their interaction with the current environment. They are much more independent than they were in adolescence but has yet not reached to a stage where they can

make enduring commitments in different areas of adult life including a secure job, marriage, parenthood (Arnett, 2006).

In addition, in emerging adulthood, additional focus is on building close relationships and intimacy with others. There is a basic need of belongingness due to which people in early adulthood build and maintain relationships. The individuals tend to be more compassionate and understanding towards others and are less self-centered than were in adolescence. They have fewer social restrictions, duties or commitments and have an autonomy to live and build their lives. (Wood et al., 2018). It is also seen that there are different aspects to intimacy and one of them is selflessness which involves sacrificing one's needs to meet those of others. The individuals who have difficulties in this stage tend to be lonely and fearful in their relationships with other people (Arnett, 2006; Feldman & Babu, 2018).

According to National Representative Mortality Survey (2012), individuals aged 15-29 years are at a higher risk of committing suicide in India (Patel et al., 2012).

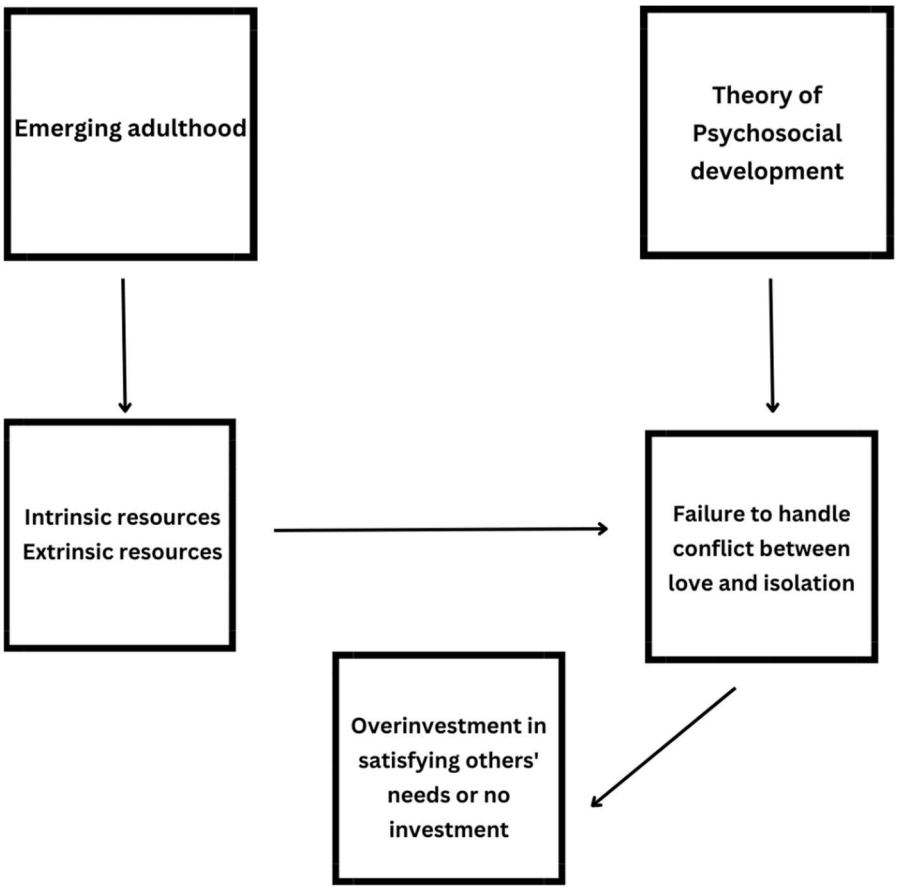
Various studies have reported that youth aged 15 to 24 tend to experience mental illness more than other age groups (MacLeod & Brownlie, 2014;). A report by the Institute of Medicine of the National Academics (2014) have shown similar findings that young adults (18-26 years) tend to have higher mental health problems. The reason of facing mental health concerns could be due to the stress of new educational and work circumstances (Melchior et al., 2007).

The evolution from adolescence to early adulthood is marked by various changes internally (biological, cognitive, emotional) and externally (change of social roles). Specific neurobiological changes include synaptic pruning (process of removing of synapses, changes in prefrontal cortex & limbic regions (Benes, 1989; Hochberg & Konner, 2020; Taber-Thomas & Perez-Edgar, 2015). The brain thus continues to develop new neural connections while removing the unused pathways. This indicates that the minds of individuals during this period can be moulded. (Syndor et al., 2021) and they can inculcate healthy traits like resilience, self-regulation (Raznahan et al., 2011).

Repeated exposure to stressors or stressful events is linked with structural changes in specific regions of brain (amygdala, prefrontal cortex, and hippocampus), which is linked with functional changes in individuals including challenges in learning, different areas of executive functioning and memory. This is turn is associated with risky behaviours among emerging adults during this stage, which is also seen by experimenting with different substances (Schulenberg et al., 2004; Schulenberg & Maggs, 2002). Various cognitive, emotional, and social challenges are encountered during this phase resulting in difficulties in handling independence among emerging adults (Wood et al., 2018).

From the research studies and literature review, it is evident that there is a need to understand the challenges & risks young adults face. Understanding the connection of different socialization processes can help in making emerging adults efficient in managing & expressing emotions, building a healthy attachment style, strengthening their cognitive flexibility, thus making them less susceptible to disorders and building a life of optimal functioning.

2.14 Theoretical framework

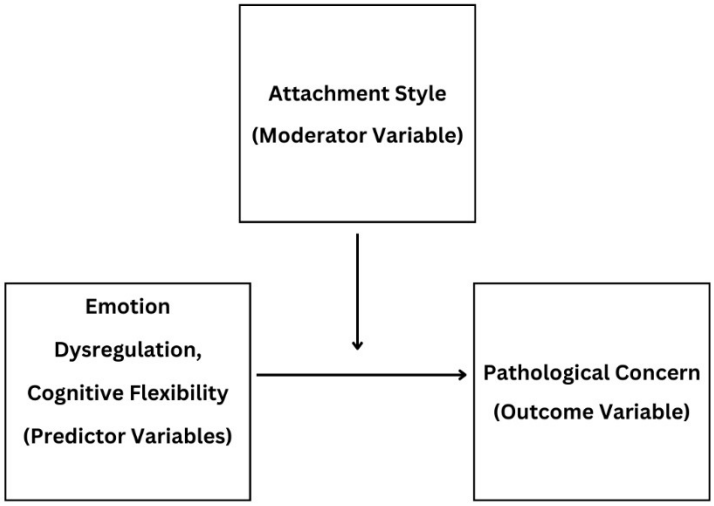

Emerging adulthood
Theory of Psychosocial development
Intrinsic resources
Extrinsic resources
Failure to handle conflict between love and isolation
Overinvestment in satisfying others' needs or no investment

Emerging adulthood is a theory of development which is marked by various changes (biologically, psychologically, socially). Individuals tend to be exploring their identities in the spheres of work, love, and perspectives towards the world. While moving through these transitions, individuals need intrinsic & extrinsic resources to transit this developmental period (Arnett, 2000; 2006; Mitra & Arnett, 2019). Handling situations in a healthy manner require managing inner thought and emotional processes during positive and negative circumstances. Extrinsically, relationships can be a vital support system for the emerging adults. Erickson's theory of psychosocial development has also emphasized on the importance of interpersonal relationships. According to him, emerging adulthood is a time period where primary focus is on building close relationships and intimacy with others. There is a basic need of belongingness and individuals tend to inculcate the strengths needed to nurture their relationships despite any sacrifices they may need to make. Some individuals

may form and sustain healthy relationships while some may not. They have an inner conflict between isolation and love, and the individuals who have difficulties in this stage may become lonely and fearful in their relationships with other people and as a result may either invest overly in their relationships sacrificing their needs or have no investment at all (Erickson, Sroufe & Egeland,1985; Feldman & Babu, 2018). It is thus important to understand the dynamics of both interpersonal and intrapersonal processes for better transaction of emerging adults during this stage of life.

2.15 Proposed model

Based on Erickson's theory of psychosocial development and Arnett's theory of emerging adulthood, following model has been proposed.



Research Gap

From in-depth analysis of literature, following gaps are identified:

- Various changes at the biological, social, and psychological level occur in emerging adulthood, leading to tremendous shifts in behaviour, increased responsibility towards family, parental expectations, romantic relationships, and independence/autonomy (Arnett, 2006; Mitra & Arnett, 2019; Thompson & Nelson, 2001; Wood et al., 2018).

There is a need to intervene in this developmental period to understand how different attributes interact to aggravate or reduce the undesired & desired behaviours.

- It is observed that lack of emotional reactivity or heightened reactivity to external stimuli, inability to experience positive emotions, change the emotional state of mind, tends to aggravate the severity of symptoms in mental illnesses (Eskander et al., 2020; Janiri et al., 2021; Wolkenstein, Sommerhoff, Voss, 2022). Due to this, many studies are conducted on clinical population. However, in non-clinical population, deficits in managing emotions have shown associations with anxiety disorders, depressive disorders, and other psychological problems (Seligowski et al., 2014). So, it is crucial to understand the trajectory of emotion dysregulation in order to understand how it can influence interpersonal and cognitive processes in emerging adulthood.

- Various researches have seen that among emerging adults, pathological concern is linked with many concerns including attachment insecurities, low self-esteem, low well-being, emotional and interpersonal difficulties, lower levels of self-compassion (Gerber et al., 2015; Shavit & Tolmacz, 2014). During emerging adulthood, it is thus important to understand pathological concern and factors influencing it.

- During emerging adulthood, individuals have a need for intimacy and love, due to which they tend to invest more in interpersonal relationships (Feldman & Babu, 2018; Wood et al., 2018). But individuals having insecure attachment styles are observed to overly invest in others while denying their own needs, have higher relationship concerns, lower cognitive flexibility, and higher emotion dysregulation (Ozeren, 2022; Salande & Hawkins, 2016; Tolmacz et al., 2022). Moreover, pathological concern is linked with reduced frequency of positive emotions, higher negative emotions, and depression among adults (Preece et al., 2021; Shavit & Tolmacz, 2014). However, the association of emotion dysregulation with cognitive flexibility to influence pathological concern in the presence of attachment style has been explored

less in literature. There is thus a need to study how emotion dysregulation, cognitive flexibility, and attachment style impact pathological concern.

The current study addresses these gaps and examines the impact of emotion dysregulation and cognitive flexibility on pathological concern, having attachment style as a moderator among emerging adults.

Description of Broad Area

Emerging adulthood is a developmental phase where individuals transform from adolescents to young adults (Arnett, 2000; 2006; Mitra & Arnett, 2019). During this period, certain areas like emotion dysregulation, cognitive flexibility, attachment style and pathological concern are drastically impacted. Their interactions can result in a heathy developmental progression or may hinder development and can lead to psychopathology.

There is thus a need to intervene and understand the challenges and risks faced by emerging adults. Understanding the problems will help to identify the risk for psychopathology and can help emerging adults to engage in processes and behaviours in order to effectively manage their emotions, enhance their cognitive flexibility, build a healthy attachment style and reduce the vulnerability to psychopathology.

Emotion dysregulation is the inability of a person to manage emotions. Cognitive flexibility is defined as an ability to perceive multiple explanations and solutions to difficult situations and tendency to perceive difficult situations as controllable. (Dennis & Wal, 2010). Pathological concern is defined as a type of concern which is made of two components namely repression and denial of one's needs, and overinvestment in satisfying needs of others (Shavit & Tolmacz, 2014).

Problem Statement

According to National Crime Records Bureau (2021), Delhi has the highest number of suicides in India among all the Union Territories and Metropolitan Cities. The major causes of suicides in India include family issues, illnesses, and interpersonal concerns. Out of all age groups, 67% individuals were emerging adults. From the literature, it is also observed that

lack of skills or maladaptive regulation of positive and negative emotions, insecure attachment styles, lower cognitive flexibility in emerging adults can lead to various problems like depressive disorders, suicide, interpersonal conflicts, substance use, emotional and interpersonal difficulties (Doron et al., 2009; Martin, Staggers & Anderson, 2011; Shavit & Tolmacz, 2014; Tchanturia et al., 2011). It calls for a need to study these variables and their association with one another which will help in understanding how these variables impact emerging adults collectively. The current study thus aims to investigate the impact of emotion dysregulation and cognitive flexibility on pathological concern taking attachment style as moderator between their relationship.

Research Objectives

1. To examine the relationship among emotion dysregulation, attachment style, cognitive flexibility, and pathological concern in emerging adults.
2. To examine whether attachment style is a significant moderator of the relationship between emotion dysregulation and pathological concern.
3. To examine whether attachment style is a significant moderator of the relationship between cognitive flexibility and pathological concern.

Research Hypothesis

1. There would be a significant relationship among emotion dysregulation, attachment style, cognitive flexibility, and pathological concern in emerging adults.
2. Attachment styles would significantly moderate the relationship between emotion dysregulation and pathological concern in emerging adults.
3. Attachment styles would significantly moderate the relationship between cognitive flexibility and pathological concern in emerging adults.

Research Methodology

5.1 Aim

To examine the moderating role of attachment style on the relationship between emotion dysregulation, cognitive flexibility, and pathological concern in emerging adults.

5.2 Sample

5.3 Sampling Technique

500 emerging adults will be recruited to serve as the participants of the study. Convenient sampling method will be used. The chosen age group will be of range 18-29 years and the locale will be Delhi/NCR region.

Predictor variable: Emotion dysregulation, Cognitive flexibility
Outcome variable: Pathological concern
Moderating variable: Attachment style

5.4 Operational Definitions

- **Emotion dysregulation:** Emotion dysregulation is a multifaceted construct which involves "the relative absence of any or all the following abilities" in regulating emotions (Gratz & Roemer, 2004). The relative absence here indicates that the difficulties may be present in one or more abilities or the degree of difficulty may vary.

- **Cognitive flexibility:** Cognitive flexibility is defined as "an ability to perceive multiple explanations and solutions to difficult situations and tendency to perceive difficult situations as controllable" (Dennis & Wal, 2010).
- **Attachment style:** Attachment style is defined is "a psychological tie between two or more individuals who comprehends, have a sharing state of mind, and have a nature of solace and reliance with each other" (Ahmad, Jahan & Imtiaz, 2016).

- **Pathological concern:** Pathological concern is defined as "a type of concern which is made of two components namely repression and denial of one's needs, and overinvestment in satisfying needs of others" (Shavit & Tolmacz, 2014)

5.5 Inclusion and Exclusion Criteria of Sample:

Inclusion Criteria

- Individuals within the age range of 18-29 years who can comprehend Hindi and English Language.

Exclusion criteria

- Emerging adults with chronic physical illness or mental illness or receiving psychotherapy in the past 2 years.
- Individuals who are less than 18 years and more 29 years.

5.6 Measures

Subjects will be asked for the informed consent and Socio-Demographic details.

Socio-Demographic Details:

The emerging adults will complete a demographic questionnaire assessing the age, gender, birth order, father's occupation, mother's occupation, yearly income of family, any history of physical or mental illness.

Tools

Difficulties in Emotion Regulation Scale-Short Form (Kaufman et al., 2016)

It is a self-report tool of measurement of 18 items which assesses problems related to regulating emotions in six major domains like lack of acceptance of emotional responses, lack of awareness of emotions, lack of emotional clarity, difficulty in engaging in behaviour which is goal directed, difficulties in controlling impulses and limited access to strategies to manage emotions. It is made of 18 items assessed using a Likert scale ranging from 1 (almost

never) to 5 (almost always). It has good psychometric properties where Cronbach's alpha ranges from .78 to .91.

Cognitive Flexibility Inventory (Dennis & Wal, 2010)

It is self-report tool of measurement of 20 items which assesses two components of cognitive flexibility namely alternatives (ability to perceive different alternative explanations or solutions to problems, and control (tendency to perceive challenging situations or problems as controllable). The items are analyzed using a 7-point Likert scale 1 (strongly disagree) to 7 (strongly agree). It has efficient psychometric properties where Cronbach's alpha for Alternative is 0.91 and for Control is 0.89.

Pathological Concern Questionnaire (Shavit & Tolmacz, 2014)

It is a self-report tool having 18 items which assesses thoughts, emotions, and behaviour in context with denial of one's needs and overinvestment in satisfying needs of others. It is analyzed on a Likert scale (7-point) ranging from 1 (not at all) -7 (very much). It has fine psychometric properties where Cronbach alpha is 0.89.

Measure of Attachment Style (Ahmad, Jahan & Imtiaz, 2016)

It is a self-report tool which has 27 items that measures the attachment patterns of individuals. The patterns will be analyzed using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It has good psychometric properties where Cronbach's alpha is 0.80.

5.7 Research Design

Correlational research design

5.8 Procedure

Consent from the authors of all the scales will be taken. All the scales which have not been developed and used on Indian population will be validated using Confirmatory Factor Analysis. Written informed consent will be taken from participants to ensure the anonymity and confidentiality of their data and the data will only be used for the research purpose. Following this, the scales of emotion regulation, cognitive flexibility, type of attachment style and pathological concern will be administered on the participants who will give their informed consent. Th normality of data will be checked using Kolmogorov-Smirnov test, Shapiro Wilk test, and by checking the Skewness and Kurtosis. The data will then be coded according to the scoring of the respective scales. The compiled data will be analyzed employing appropriate statistics.

5.9 Statistical Analysis

The demographic details will be explained using descriptive statistics through SPSS V25. Moderation analysis will be done using Hayes PROCESS to assess the relationship between the variables.

5.10 Ethical Considerations

- A written informed consent from the participants will be taken before the administration of the tools.
- The participation in the study will be voluntary.
- The participants can withdraw from the study at any time.
- Confidentiality of the sample will be maintained.
- Transparency and accountability will be ensured.

Expected Outcome of the Research

It is proposed that attachment style may significantly moderate the relation between emotion regulation, cognitive flexibility pathological concern among emerging adults.

References

Ahmad, N., Jahan, A., & Imtiaz, N. (2016). Measure of Attachment Style. *The International Journal of Indian Psychology*, *3*(4), 48-60.

Al-Shawaf, L., Conroy-Beam, D., Asao, K., & Buss, D. M. (2016). Human emotions: An evolutionary psychological perspective. *Emotion Review*, *8*(2), 173-186. https://doi.org/10.1177/1754073914565518.

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child neuropsychology*, *8*(2), 71-82. https://doi.org/10.1076/chin.8.2.71.8724.

Ardenghi, S., Rampoldi, G., Bani, M., & Strepparava, M. G. (2020). Attachment styles as predictors of self-reported empathy in medical students during pre-clinical years. *Patient Education and Counseling*, *103*(5), 965-970. https://doi.org/10.1016/j.pec.2019.11.004.

Armbruster, D. J. N., Ueltzhöffer, K., Basten, U., & Fiebach, C. J. (2012). Prefrontal cortical mechanisms underlying individual differences in cognitive flexibility and stability. *Journal of Cognitive Neuroscience*, *24*(12), 2385–2399. https://doi.org/10.1162/JOCN_A_00286.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist*, *55*(5), 469-480. https://doi.org/10.1037/0003-066X.55.5.469.

Arnett, J. J. (2006). Emerging Adulthood: Understanding the New Way of Coming of Age. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century,* 3–19. American Psychological Association. https://doi.org/10.1037/11381-001.

Baas, M., De Dreu, C. K., & Nijstad, B. A. (2008). A meta-analysis of 25 years of mood-creativity research: Hedonic tone, activation, or regulatory focus?. *Psychological bulletin*, *134*(6), 779-806. https://doi.org/10.1037/a0012815.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of personality and social psychology*, *61*(2), 226-244. https://doi.org/10.1037/0022-3514.61.2.226.

Bastin, C., Rakesh, D., Harrison, B. J., Davey, C. G., Allen, N. B., Muller, S., & Whittle, S. (2021). Feelings of shame and guilt are associated with distinct neural activation in youth. *Biological Psychology*, *159*, 108025. https://doi.org/10.1016/j.biopsycho.2021.108025.

Baumann, N., & Kuhl, J. (2005). Positive affect and flexibility: overcoming the precedence of global over local processing of visual information. *Motivation and Emotion, 29*(2), 123–134. https://doi.org/10.1007/s11031-005-7957-1.

Berk, L., 2013. *Child development*. 9th ed. Boston: Pearson.

Benes, F. M. (1989). Myelination of cortical-hippocampal relays during late adolescence. *Schizophrenia bulletin*, *15*(4), 585-593.

Bennett, D. A., Schneider, J. A., Tang, Y., Arnold, S. E., & Wilson, R. S. (2006). The effect of social networks on the relation between Alzheimer's disease pathology and level of cognitive function in old people: a longitudinal cohort study. *The Lancet Neurology*, *5*(5), 406-412. https://doi.org/10.1016/S1474-4422(06)70417-3.

Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. Psychoanalytic Study of the Child, *29*, 107–157.

Blasco-Fontecilla, H., Fernández-Fernández, R., Colino, L., Fajardo, L., Perteguer-Barrio, R., & de Leon, J. (2016). The Addictive Model of Self-Harming (Non-suicidal and Suicidal) Behavior. *Frontiers in psychiatry*, *7*(8). https://doi.org/10.3389/fpsyt.2016.00008.

Bowlby, J. (1988). A secure base: Parent-child attachment and healthy human development. *PsycNET*. https://psycnet.apa.org/record/1988-98501-000.

Buhle, J. T., Silvers, J. A., Wager, T. D., Lopez, R., Onyemekwu, C., Kober, H., ... & Ochsner, K. N. (2014). Cognitive reappraisal of emotion: a meta-analysis of human neuroimaging studies. *Cerebral cortex*, *24*(11), 2981-2990. https://doi.org/10.1093/cercor/bht154.

Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: cross-sectional and longitudinal analyses. *Psychology and aging*, *21*(1), 140-151. https://doi.org/10.1037/0882-7974.21.1.140.

Caprara, G. V., Gerbino, M., Paciello, M., Di Giunta, L., & Pastorelli, C. (2010). Counteracting depression and delinquency in late adolescence: the role of regulatory emotional and interpersonal self-efficacy beliefs. *European Psychologist*, *15*(1), 34-48. https://doi.org/10.1027/1016-9040/a000004.

Caspi, A., Harrington, H., Moffitt, T. E., Milne, B. J., & Poulton, R. (2006). Socially isolated children 20 years later: risk of cardiovascular disease. *Archives of pediatrics & adolescent medicine*, *160*(8), 805-811. https://doi.org/10.1001/archpedi.160.8.805.

Cantazaro, A., & Wei, M. (2010). Adult attachment, dependence, self-criticism, and depressive symptoms: A test of a mediational model. *Journal of personality*, *78*(4), 1135-1162. https://doi.org/10.1111/j.1467-6494.2010.00645.x.

Carlson, E. A. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child development*, *69*(4), 1107-1128.

Cheeta, S., Beevers, J., Chambers, S., Szameitat, A., & Chandler, C. (2021). Seeing sadness: Comorbid effects of loneliness and depression on emotional face processing. *Brain and Behavior*, *11*(7), e02189. https://doi.org/10.1002/brb3.2189.

Chen, Q., Yang, W., Li, W., Wei, D., Li, H., Lei, Q., Zhang, Q., & Qiu, J. (2014). Association of creative achievement with cognitive flexibility by a combined voxel-based morphometry and resting-state functional connectivity study. *NeuroImage*, *102*, 474–483. https://doi.org/10.1016/j.neuroimage.2014.08.008.

Chow, C. M., Ruhl, H., & Buhrmester, D. (2016). Reciprocal associations between friendship attachment and relational experiences in adolescence. *Journal of Social and Personal Relationships*, *33*(1), 122-146. https://doi.org/10.1177/0265407514562987.

Cicchetti, D., & Rogosch, F. A. (2002). A developmental psychopathology perspective on adolescence. *Journal of consulting and clinical psychology*, *70*(1), 6-20. https://doi.org/10.1037/0022-006X.70.1.6.

Cisler, J. M., Olatunji, B. O., Feldner, M. T., & Forsyth, J. P. (2010). Emotion Regulation and the Anxiety Disorders: An Integrative Review. *Journal of Psychopathology and Behavioral Assessment*, *32*(1), 68–82. https://doi.org/10.1007/S10862-009-9161-1.

Compton, S. N., March, J. S., Brent, D., Albano, A. M., Weersing, V. R., & Curry, J. (2004). Cognitive-behavioral psychotherapy for anxiety and depressive disorders in children and adolescents: an evidence-based medicine review. *Journal of the American Academy of Child & Adolescent Psychiatry*, *43*(8), 930-959. https://doi.org/10.1097/01.chi.0000127589.57468.bf.

Craig, R. L., Gray, N. S., & Snowden, R. J. (2013). Recalled parent bonding, current attachment, and the triarchic conceptualization of psychopathy. Personality and Individual Differences, *55*(4), 345–350. https://doi.org/10.1016/j.paid.2013.03.012.

Crawford, T. N., John Livesley, W., Jang, K. L., Shaver, P. R., Cohen, P., & Ganiban, J. (2007). Insecure attachment and personality disorder: A twin study of adults. *European Journal of Personality: Published for the European Association of Personality Psychology*, *21*(2), 191-208. https://doi.org/10.1002/per.602.

Curtis, W. J., & Cicchetti, D. (2003). Moving research on resilience into the 21st century: Theoretical and methodological considerations in examining the biological contributors to resilience. *Development and psychopathology*, *15*(3), 773-810. doi:10.1017/S0954579403000373.

Dajani, D. R., & Uddin, L. Q. (2015). Demystifying cognitive flexibility: Implications for clinical and developmental neuroscience. *Trends in neurosciences*, *38*(9), 571-578. https://doi.org/10.1016/j.tins.2015.07.003.

Darwin, C. (1872/1965). The Expression of the Emotions in Man and Animals. London, John Murray. https://doi.org/10.1037/10001-000.

Davis, R. N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive therapy and research*, *24*(6), 699-711. https://doi.org/10.1023/A:1005591412406.

Deak, G. O. (2003). The development of cognitive flexibility and language abilities. In R. V. Kail (Ed.), *Advances in child development and behavior, 31*, 271–327. Academic Press.

Del Giudice, M. (2019). Sex differences in attachment styles. *Current Opinion in Psychology*, *25*, 1-5. https://doi.org/10.1016/j.copsyc.2018.02.004.

Dennis, J. P., & Vander Wal, J. S. (2010). The cognitive flexibility inventory: Instrument development and estimates of reliability and validity. *Cognitive therapy and research*, *34*(3), 241-253. https://doi.org/10.1007/s10608-009-9276-4.

Dick, A. S. (2014). The development of cognitive flexibility beyond the preschool period: An investigation using a modified Flexible Item Selection Task. *Journal of experimental child psychology*, *125*, 13-34. https://doi.org/10.1016/j.jecp.2014.01.021.

Donges, U. S., Jachmann, A., Kersting, A., Egloff, B., & Suslow, T. (2015). Attachment anxiety and implicit self-concept of neuroticism: Associations in women but not men. *Personality and Individual Differences*, *72*, 208-213. https://doi.org/10.1016/j.paid.2014.08.043.

Doron, G., Moulding, R., Nedeljkovic, M., Kyrios, M., Mikulincer, M., & Sar-El, D. (2012). Adult attachment insecurities are associated with obsessive compulsive disorder. *Psychology and psychotherapy: theory, research and practice*, *85*(2), 163-178. doi: 10.1111/j.2044-8341.2011.02028.x.

Dreisbach, G., & Goschke, T. (2004). How positive affect modulates cognitive control: reduced perseveration at the cost of increased distractibility. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*(2), 343-353. https://doi.org/10.1037/0278-7393.30.2.343.

Erickson, M. F., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development, 50*, 147-166. https://doi.org/10.2307/3333831.

Erikson, E. H. (1968). *Identity: Youth and crisis*. Norton & company.

Eskander, N., Emamy, M., Saad-Omer, S. M., Khan, F., & Jahan, N. (2020). The impact of impulsivity and emotional dysregulation on comorbid bipolar disorder and borderline personality disorder. *Cureus*, *12*(8). https://doi.org/10.7759/cureus.9581.

Feeney, J., Alexander, R., Noller, P., & Hohaus, L. (2003). Attachment insecurity, depression, and the transition to parenthood. *Personal Relationships*, *10*(4), 475-493.

https://doi.org/10.1046/J.1475-6811.2003.00061.X.

Feldman, R.S., Babu, N. (2018). *Development Across the Life Span* (8th ed.). Pearson.

Fraley, R. C. (2019). Attachment in Adulthood: Recent Developments, Emerging Debates, and Future Directions. *Annual Review of Psychology, 70*(1)*, 401-422.* https://doi.org/10.1146/annurev-psych-010418-102813.

Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of general psychology*, *4*(2), 132-154. https://doi.org/10.1037/1089-2680.4.2.132.

Fraley, R. C., & Roisman, G. I. (2019). The development of adult attachment styles: Four lessons. *Current opinion in psychology*, *25*, 26-30. https://doi.org/10.1016/j.copsyc.2018.02.008.

Fraley, C. R., Niedenthal, P. M., Marks, M., Brumbaugh, C., & Vicary, A. (2006). Adult Attachment and the Perception of Emotional Expressions: Probing the Hyperactivating Strategies Underlying Anxious Attachment. *Journal of Personality*, *74*(4), 1163–1190. https://doi.org/10.1111/J.1467-6494.2006.00406.X

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *The American psychologist*, *60*(7), 678-686. https://doi.org/10.1037/0003-066X.60.7.678.

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What Good Are Positive Emotions in Crises? A Prospective Study of Resilience and Emotions Following the Terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, *84*(2), 365–376. https://doi.org/10.1037/0022-3514.84.2.365.

Fresco, D. M., Rytwinski, N. K., & Craighead, L. W. (2007). Explanatory flexibility and negative life events interact to predict depression symptoms. *Journal of Social and Clinical Psychology*, *26*(5), 595-608. https://doi.org/10.1521/jscp.2007.26.5.595.

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical psychology review*, *30*(7), 865-878. https://doi.org/10.1016/j.cpr.2010.03.001.

Gabrys, R. L., Tabri, N., Anisman, H., & Matheson, K. (2018). Cognitive Control and Flexibility in the Context of Stress and Depressive Symptoms: The Cognitive Control and Flexibility Questionnaire. *Frontiers in Psychology*, 9, 2219. https://doi.org/10.3389/fpsyg.2018.02219.

Genet, J. J., & Siemer, M. (2011). Flexible control in processing affective and non-affective material predicts individual differences in trait resilience. *Cognition and emotion*, *25*(2), 380-388. https://doi.org/10.1080/02699931.2010.491647.

Gerber, Z., Tolmacz, R., & Doron, Y. (2015). Self-compassion and forms of concern for others. *Personality and Individual Differences*, *86*, 394-400.

Gillath, O., Karantzas, G. C., & Fraley, R. C. (2016). *Adult attachment: A concise introduction to theory and research*. Academic Press.

Gillath, O., Sesko, A. K., Shaver, P. R., & Chun, D. S. (2010). Attachment, authenticity, and honesty: dispositional and experimentally induced security can reduce self-and other-deception. *Journal of personality and social psychology*, *98*(5), 841-855. https://doi.org/10.1037/a0019206.

Gläscher, J., Adolphs, R., Damasio, H., Bechara, A., Rudrauf, D., Calamia, M., ... & Tranel, D. (2012). Lesion mapping of cognitive control and value-based decision making in the prefrontal cortex. *Proceedings of the National Academy of Sciences*, *109*(36), 14681-14686. https://doi.org/10.1073/pnas.1206608109.

Glenn, C. R., & Klonsky, E. D. (2009). Emotion dysregulation as a core feature of borderline personality disorder. *Journal of Personality Disorders*, *23*(1), 20–28. https://doi.org/10.1521/PEDI.2009.23.1.20.

Goldstein, A. L., Haller, S., Mackinnon, S. P., & Stewart, S. H. (2019). Attachment anxiety and avoidance, emotion dysregulation, interpersonal difficulties and alcohol problems in emerging adulthood. *Addiction Research & Theory*, *27*(2), 130-138. https://doi.org/10.1080/16066359.2018.1464151.

Goschke, T., & Bolte, A. (2014). Emotional modulation of control dilemmas: The role of positive affect, reward, and dopamine in cognitive stability and flexibility. *Neuropsychologia*, *62*, 403-423. https://doi.org/10.1016/j.neuropsychologia.2014.07.015.

Gratz, K. L., Rosenthal, M. Z., Tull, M. T., Lejuez, C. W., & Gunderson, J. G. (2006). An experimental investigation of emotion dysregulation in borderline personality disorder. *Journal of abnormal psychology*, *115*(4), 850-855. https://doi.org/10.1037/0021-843X.115.4.850.

Green, B. L., Furrer, C. J., & McAllister, C. L. (2011). Does attachment style influence social support or the other way around? A longitudinal study of Early Head Start mothers. *Attachment & Human Development*, *13*(1), 27-47. https://doi.org/10.1080/14616734.2010.488121.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of general psychology*, *2*(3), 271-299. https://doi.org/10.1037/1089-2680.2.3.271.

Gross, J. J. (1998). Antecedent-and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of personality and social psychology*, *74*(1), 224.

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, *39*(3), 281–291. https://doi.org/10.1017/S0048577201393198.

Gross, J. J. (2013). Emotion regulation: Taking stock and moving forward. *Emotion*, *13*(3), 359–365. https://doi.org/10.1037/A0032135.

Gross, J. J. (2014). Emotion regulation: conceptual and empirical foundations. The Guilford Press.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological inquiry*, *26*(1), 1-26. https://doi.org/10.1080/1047840X.2014.940781.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of personality and social psychology*, *85*(2), 348–362. https://doi.org/10.1037/0022-3514.85.2.348.

Gunduz, B. (2013). The Contributions of Attachment Styles, Irrational Beliefs and Psychological Symptoms to the Prediction of Cognitive Flexibility. *Educational Sciences: Theory and Practice*, *13*(4), 2079-2085.

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P., Ray, S. (2021). Moderation Analysis. In: Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R. Classroom Companion: Business. Springer, Cham. https://doi.org/10.1007/978-3-030-80519-7_8.

Hadžić, A., & Kantar, D. (2021). The relationships between attachment dimensions and affect in adulthood: The mediating effects of psychological flexibility. *Primenjena Psihologija*, *14*(2), 173–188. https://doi.org/10.19090/PP.2021.2.173-188.

Harrison, A., Sullivan, S., Tchanturia, K., & Treasure, J. (2009). Emotion recognition and regulation in anorexia nervosa. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, *16*(4), 348-356. https://doi.org/10.1002/cpp.628.

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of behavioral medicine*, *40*(2), 218-227. https://doi.org/10.1007/s12160-010-9210-8.

Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford publications.

Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin,116*(3), 412-428.https://doi.org/10.1037/0033-2909.116.3.412.

Herron, S. J., & Sani, F. (2022). Understanding the typical presentation of emptiness: a study of lived-experience. *Journal of Mental Health*, *31*(2), 188–195. https://doi.org/10.1080/09638237.2021.1922645.

Hirt, E. R., Devers, E. E., & McCrea, S. M. (2008). I want to be creative: exploring the role of hedonic contingency theory in the positive mood-cognitive flexibility link. *Journal of personality and social psychology*, *94*(2), 214-230. https://doi.org/10.1037/0022-3514.94.2.94.2.214.

Hochberg, Z. E., & Konner, M. (2020). Emerging Adulthood, a Pre-adult Life-History Stage. *Frontiers in endocrinology*, *10*, 918. https://doi.org/10.3389/fendo.2019.00918.

Holtzheimer, P. E., & Mayberg, H. S. (2011). Stuck in a rut: rethinking depression and its treatment. *Trends in neurosciences*, *34*(1), 1-9. https://doi.org/10.1016/j.tins.2010.10.004.

Hou, Z., Sui, Y., Song, X., & Yuan, Y. (2016). Disrupted interhemispheric synchrony in default mode network underlying the impairment of cognitive flexibility in late-onset depression. *Frontiers in aging neuroscience*, *8*, 230. https://doi.org/10.3389/fnagi.2016.00230.

Hunter, S. J., & Sparrow, E. P. (2012). Models of executive functioning. *Executive function and dysfunction*, 5-16. https://doi.org/10.1017/CBO9780511977954.

Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: emotional and relational costs of suppressing emotions in romantic relationships. *Personality & social psychology bulletin*, *38*(6), 707–720. https://doi.org/10.1177/0146167212437249.

Institute of Medicine of the National Academics (2014). *Investing in the health and well-being of young adults.* Available at: www.nationalacademies.org/ hmd/w/media/Files/Report Files/2014/YAYAreportbrief.pdf.

Ionescu, T. (2012). Exploring the nature of cognitive flexibility. *New Ideas in Psychology, 30*(2), 190–200. https://doi.org/10.1016/j.newideapsych.2011.11.001.

Isen, A. M. (2008). Some ways in which positive affect influences decision making and problem solving. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 548–573). The Guilford Press.

Jack, D. C., & Dill, D. (1992). The silencing the self scale: Schemas of intimacy associated with depression in women. *Psychology of Women Quarterly*, 16(1), 97–106. doi:10.1111/j.1471-6402.1992.tb00242.x.

Janiri, D., Moccia, L., Conte, E., Palumbo, L., Chieffo, D. P. R., Fredda, G., ... & Janiri, L. (2021). Emotional dysregulation, temperament and lifetime suicidal ideation among youths with

mood disorders. *Journal of Personalized Medicine*, *11*(9), 865. https://doi.org/10.3390/jpm11090865.

Jankowski, K. F., & Takahashi, H. (2014). Cognitive neuroscience of social emotions and implications for psychopathology: examining embarrassment, guilt, envy, and schadenfreude. *Psychiatry and clinical neurosciences*, *68*(5), 319-336. https://doi.org/10.1111/pcn.12182.

Johnstone, T., & Walter, H. (2014). The neural basis of emotion dysregulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 58–75). The Guilford Press.

Kanazawa, S., & Savage, J. (2009). An evolutionary psychological perspective on social capital. *Journal of Economic Psychology*, *30*(6), 873-883. https://doi.org/10.1016/j.joep.2009.08.002.

Kalia, V., & Knauft, K. (2020). Emotion regulation strategies modulate the effect of adverse childhood experiences on perceived chronic stress with implications for cognitive flexibility. *PloS one*, *15*(6), e0235412. https://doi.org/10.1371/journal.pone.0235412.

Kanske, P. (2012). On the influence of emotion on conflict processing. *Frontiers in Integrative Neuroscience*, *6*, 42. https://doi.org/10.3389/fnint.2012.00042.

Karreman, A., & Vingerhoets, A. J. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual differences*, *53*(7), 821-826. https://doi.org/10.1016/j.paid.2012.06.014.

Kearns, S. M., & Creaven, A. M. (2017). Individual differences in positive and negative emotion regulation: Which strategies explain variability in loneliness? *Undefined*, *11*(1), 64–74. https://doi.org/10.1002/PMH.1363.

Kharsati, N., & Bhola, P. (2015). Patterns of non-suicidal self-injurious behaviours among college students in India. *The International Journal of Social Psychiatry*, *61*(1), 39–49. https://doi.org/10.1177/0020764014535755.

Klonsky, E. D., & Olino, T. M. (2008). Identifying clinically distinct subgroups of self-injurers among young adults: A latent class analysis. *Journal of Consulting and Clinical Psychology, 76*(1), 22–27. https://doi.org/10.1037/0022-006X.76.1.22.

Kring, A. M., & Werner, K. H. (2004). Emotion Regulation and Psychopathology. In P. Philippot & R. S. Feldman (Eds.), *The regulation of emotion* (pp. 359–385). Lawrence Erlbaum Associates Publishers.

Layden, E. A., Cacioppo, J. T., Cacioppo, S., Cappa, S. F., Dodich, A., Falini, A., & Canessa, N. (2017). Perceived social isolation is associated with altered functional connectivity in neural networks associated with tonic alertness and executive control. *Neuroimage*, *145*, 58-73. https://doi.org/10.1016/j.neuroimage.2016.09.050.

Lee, J. (2022). *Family Invalidation and Cognitive Flexibility within Asian Young Adults* (Doctoral dissertation, Long Island University, CW Post Center).

Lin, W. L., Tsai, P. H., Lin, H. Y., & Chen, H. C. (2014). How does emotion influence different creative performances? The mediating role of cognitive flexibility. *Cognition & emotion*, *28*(5), 834-844. https://doi.org/10.1080/02699931.2013.854195.

von der Lippe, A., Eilertsen, D. E., Hartmann, E., & Killèn, K. (2010). The role of maternal attachment in children's attachment and cognitive executive functioning: A preliminary study. *Attachment & Human Development, 12*(5), 429-444. https://doi.org/10.1080/14616734.2010.501967.

Mackie, M. A., Van Dam, N. T., & Fan, J. (2013). Cognitive control and attentional functions. *Brain and cognition*, *82*(3), 301-312.https://doi.org/10.1016/j.bandc.2013.05.004.

MacLeod, K. B., & Brownlie, E. B. (2014). Mental health and transitions from adolescence to emerging adulthood: Developmental and diversity considerations. *Canadian Journal of Community Mental Health, 33*(1), 77–86. https://doi.org/10.7870/cjcmh-2014-007.

Mailis, A., & Lakha, S. F. (2019). From (Ontario Ministry of Health and Long-Term Care) policy to implementation: A retrospective look at a community-based patient-centered model of care for chronic pain. *Canadian journal of pain = Revue canadienne de la douleur*, *3*(1), 114–125. https://doi.org/10.1080/24740527.2019.1614880.

Marko, M., & Riečanský, I. (2018). Sympathetic arousal, but not disturbed executive functioning, mediates the impairment of cognitive flexibility under stress. *Cognition*, *174*, 94–102. https://doi.org/10.1016/J.COGNITION.2018.02.004.

Martin, M. M., Staggers, S. M., & Anderson, C. M. (2011). The relationships between cognitive flexibility with dogmatism, intellectual flexibility, preference for consistency, and self-compassion. *Communication Research Reports*, *28*(3), 275-280. https://doi.org/10.1080/08824096.2011.587555.

McLaughlin, K. A., Hatzenbuehler, M. L., Mennin, D. S., & Nolen-Hoeksema, S. (2011). Emotion dysregulation and adolescent psychopathology: A prospective study. *Behaviour research and therapy*, *49*(9), 544-554. https://doi.org/10.1016/j.brat.2011.06.003.

Melchior, M., Chastang, J. F., Goldberg, P., & Fombonne, E. (2008). High prevalence rates of tobacco, alcohol and drug use in adolescents and young adults in France: results from the GAZEL Youth study. *Addictive behaviors*, *33*(1), 122-133. https://doi.org/10.1016/j.addbeh.2007.09.009.

Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World Psychiatry*, *11*(1), 11-15. https://doi.org/10.1016/j.wpsyc.2012.01.003.

Mikulincer, M., & Shaver, P. R. (2016). Attachment in adulthood: Structure, dynamics, and change (2nd ed.). New York, Guilford Press.

Mikulincer, M., Shaver, P. R., & Solomon, Z. (2015). An attachment perspective on traumatic and posttraumatic reactions. In M. P. Safir, H. S. Wallach, & S. Rizzo (Eds.), Future directions in post-traumatic stress disorder: Prevention, diagnosis, and treatment (pp. 79–96). New York: Springer Press. https://doi.org/10.1007/978-1-4899-7522-5_4.

Mitra, D., & Arnett, J. J. (2019). Life choices of emerging adults in India. *Emerging adulthood*, *9*(3), 229-239. https://doi.org/10.1177/2167696819851.

Moore, A., & Malinowski, P. (2009). Meditation, mindfulness and cognitive flexibility. *Consciousness and cognition*, *18*(1), 176-186. https://doi.org/10.1016/j.concog.2008.12.008.

Murphy, F. C., Michael, A., & Sahakian, B. J. (2012). Emotion modulates cognitive flexibility in patients with major depression. *Psychological medicine*, *42*(7), 1373-1382. doi:10.1017/S0033291711002418.

Naud, C., Lussier, Y., Sabourin, S., Normandin, L., Clarkin, J. F., & Kernberg, O. F. (2013). How attachment and excessive self-sacrificing depressive dynamics are related to couple relationship satisfaction over time. Couple and Family Psychology: Research and Practice, 2, 14–33. https://doi.org/10.1037/a0031705.

National Crime Records Bureau, 2021. *Accidental Deaths and Suicides in India.* 2021. Available from: https://ncrb.gov.in.

Ochsner, K. N., & Gross, J. J. (2005). The cognitive control of emotion. *Trends in cognitive sciences*, *9*(5), 242-249. https://doi.org/10.1016/j.tics.2005.03.010.

Ochsner, K. N., Silvers, J. A., & Buhle, J. T. (2012). Functional imaging studies of emotion regulation: a synthetic review and evolving model of the cognitive control of emotion.

Annals of the New York Academy of Sciences, *1251*, E1–E24. https://doi.org/10.1111/j.1749-6632.2012.06751.x.

O'Connor, L. E., Berry, J. W., & Weiss, J. (1999). Interpersonal guilt, shame, and psychological problems. *Journal of Social and Clinical Psychology, 18*(2), 181–203. https://doi.org/10.1521/jscp.1999.18.2.181.

Olsson, C. A., Moyzis, R. K., Williamson, E., Ellis, J. E., Parkinson-Bates, M., Patton, G. C., et al. (2013). Gene–environment interaction in problematic substance use: Interaction between DRD4 and insecure attachments. Addiction Biology, 18(4), 717–726. https://doi.org/10.1111/j.1369-1600.2011.00413.x.

Ozeren G. S. (2022). The correlation between emotion regulation and attachment styles in undergraduates. *Perspectives in psychiatric care, 58*(2), 482-490. https://doi.org/10.1111/ppc.12902.

Preece, D. A., Goldenberg, A., Becerra, R., Boyes, M., Hasking, P., & Gross, J. J. (2021). Loneliness and emotion regulation. *Personality and Individual Differences*, *180*, 110974. https://doi.org/10.1016/j.paid.2021.110974.

Pressman, S. D., Cohen, S., Miller, G. E., Barkin, A., Rabin, B. S., & Treanor, J. J. (2005). Loneliness, social network size, and immune response to influenza vaccination in college freshmen. *Health Psychology*, *24*(3), 297-306. https://doi.org/10.1037/0278-6133.24.3.297.

Rawana, J. S., Flett, G. L., McPhie, M. L., Nguyen, H. T., & Norwood, S. J. (2014). Developmental trends in emotion regulation: A systematic review with implications for community mental health. *Canadian Journal of Community Mental Health*, *33*(1), 31-44. https://doi.org/10.7870/cjcmh-2014-004.

Raznahan, A., Shaw, P., Lalonde, F., Stockman, M., Wallace, G. L., Greenstein, D., Clasen, L., Gogtay, N., & Giedd, J. N. (2011). How does your cortex grow?. *The Journal of Neuroscience,* 31(19), 7174-7177. https://doi.org/10.1523/JNEUROSCI.0054-11.2011.

Rindfuss R. R. (1991). The young adult years: diversity, structural change, and fertility. *Demography*, *28*(4), 493–512. https://doi.org/10.2307/2061419.

Ruocco, A. C. (2005). The neuropsychology of borderline personality disorder: A meta-analysis and review. *Psychiatry Research, 137*(3), 191-202. https://doi.org/10.1016/j.psychres.2005.07.004.

Saferstein, J. A., Neimeyer, G. J., & Hagans, C. L. (2005). Attachment as a predictor of friendship qualities in college youth. *Social Behavior and Personality: an international journal*, *33*(8), 767-776. https://doi.org/10.2224/sbp.2005.33.8.767.

Salande, J. D., & Hawkins, R. C. II. (2017). Psychological flexibility, attachment style, and personality organization: Correlations between constructs of differing approaches. *Journal of Psychotherapy Integration, 27*(3), 365–380. https://doi.org/10.1037/int0000037.

Sameroff, A. J. (2000). Developmental systems and psychopathology. *Development and psychopathology*, *12*(3), 297-312. doi:10.1017/S0954579400003035.

Savard, C., Brassard, A., Lussier, Y., & Sabourin, S. (2015). Subclinical psychopathic traits and romantic attachment in community couples: A dyadic approach. Personality and Individual Differences, 72, 128–134. https://doi.org/10.1016/j.paid.2014.08.014.

Schulenberg, J. E., Sameroff, A. J., & Cicchetti, D. (2004). The transition to adulthood as a critical juncture in the course of psychopathology and mental health. *Development and psychopathology*, *16*(4), 799–806. https://doi.org/10.1017/s0954579404040015.

Seligowski, A. v., Lee, D. J., Bardeen, J. R., & Orcutt, H. K. (2015). Emotion regulation and posttraumatic stress symptoms: a meta-analysis. *Cognitive Behaviour Therapy*, *44*(2), 87–102. https://doi.org/10.1080/16506073.2014.980753.

Segerstrom, S. C., Stanton, A. L., Alden, L. E., & Shortridge, B. E. (2003). A multidimensional structure for repetitive thought: what's on your mind, and how, and how much? *Journal of Personality and Social Psychology*, *85*(5), 909–921. https://doi.org/10.1037/0022-3514.85.5.909.

Shao, R., Liu, H. L., Huang, C. M., Chen, Y. L., Gao, M., Lee, S. H., ... & Lee, T. M. (2020). Loneliness and depression dissociated on parietal-centered networks in cognitive and resting states. *Psychological Medicine*, *50*(16), 2691-2701. https://doi.org/10.1017/S0033291719002782.

Shavit, Y., & Tolmacz, R. (2014). Pathological concern: Scale construction, construct validity, and associations with attachment, self-cohesion, and relational entitlement. *Psychoanalytic Psychology, 31*(3), 343–356. https://doi.org/10.1037/a0036560.

Sibley, C. G., Fischer, R., & Liu, J. H. (2005). Reliability and validity of the revised experiences in close relationships (ECR-R) self-report measure of adult romantic attachment. *Personality and social psychology bulletin*, *31*(11), 1524-1536. https://doi.org/10.1177/0146167205276865.

Simpson, J. A., Rholes, W. S., Campbell, L., Tran, S., & Wilson, C. L. (2003). Adult attachment, the transition to parenthood, and depressive symptoms. *Journal of personality and social psychology*, *84*(6), 1172.-1187. https://doi.org/10.1037/0022-3514.84.6.1172.

Sroufe, L. A. (1997). Psychopathology as an outcome of development. *Development and psychopathology*, *9*(2), 251-268. doi:10.1017/S0954579497002046.

Stahl, L., & Pry, R. (2005). Attentional flexibility and perseveration: Developmental aspects in young children. *Child Neuropsychology*, *11*(2), 175-189. https://doi.org/10.1080/092970490911315.

Stemme, A., Deco, G., & Busch, A. (2007). The neuronal dynamics underlying cognitive flexibility in set shifting tasks. *Journal of computational neuroscience*, *23*(3), 313-331. https://doi.org/10.1007/s10827-007-0034-x.

Stevens, A. D. (2009). *Social problem-solving and cognitive flexibility: Relations to social skills and problem behavior of at-risk young children*. Seattle Pacific University.

Sydnor, V. J., Larsen, B., Bassett, D. S., Alexander-Bloch, A., Fair, D. A., Liston, C., Mackey, A. P., Milham, M. P., Pines, A., Roalf, D. R., Seidlitz, J., Xu, T., Raznahan, A., & Satterthwaite, T. D. (2021). Neurodevelopment of the association cortices: Patterns, mechanisms, and implications for psychopathology. *Neuron*, *109*(18), 2820–2846. https://doi.org/10.1016/j.neuron.2021.06.016.

Tammilehto, J., Bosmans, G., Kuppens, P., Flykt, M., Peltonen, K., Kerns, K. A., & Lindblom, J. (2022). Dynamics of attachment and emotion regulation in daily life: uni-and bidirectional associations. *Cognition and Emotion,36*(6), *1109-1131.* https://doi.org/10.1080/02699931.2022.2081534.

Tangney, J. P., & Tracy, J. L. (2012). Self-conscious emotions. In M. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (2nd ed., pp. 446-478). New York, NY, USA: Guilford Press.

Tao, Y., Luo, D., Deng, T., & Ma, X. (2021, June). The Influence of Guilt Emotion on Cognitive Flexibility. Proceedings of the *2021 2nd International Conference on Mental Health and Humanities Education*, 579-583. Atlantis Press. https://doi.org/10.2991/assehr.k.210617.142.

Taylor, P. J., Rietzschel, J., Danquah, A., & Berry, K. (2015). The role of attachment style, attachment to therapist, and working alliance in response to psychological therapy. *Psychology and Psychotherapy: Theory, research and practice*, *88*(3), 240-253. https://doi.org/10.1111/papt.12045.

Taber-Thomas B., Perez-Edgar K. (2016). Emerging adulthood brain development. In Arnett J. J (Ed.), *The Oxford handbook of emerging adulthood* (pp. 126–141). New York, NY: Oxford University Press.

Wang, J., & Wang, X. (2021). Sample size calculation for linear mixed models in longitudinal studies. BMC Medical Research Methodology, 21(1), 1-10.

Wolkenstein, L., Sommerhoff, A., & Voss, M. (2022). Positive emotion dysregulation in posttraumatic stress disorder. *Journal of Anxiety Disorders*, *86*, 102534. https://doi.org/10.1016/j.janxdis.2022.102534.

Tchanturia, K., Harrison, A., Davies, H., Roberts, M., Oldershaw, A., Nakazato, M., Stahl, D., Morris, R., Schmidt, U., & Treasure, J. (2011). Cognitive flexibility and clinical severity in eating disorders. *PloS one*, *6*(6), e20462. https://doi.org/10.1371/journal.pone.0020462.

Tian, Y., Yang, L., Chen, S., Guo, D., Ding, Z., Tam, K. Y., & Yao, D. (2017). Causal interactions in resting-state networks predict perceived loneliness. *PLOS ONE*, *12*(5), e0177443. https://doi.org/10.1371/JOURNAL.PONE.0177443.

Tolmacz, R., Friedemann, Y., Doron, Y., & Gerber, Z. (2019). Narcissism and concern for others: A contradiction in terms? *Current Psychology 2019 40:4*, *40*(4), 1814–1823. https://doi.org/10.1007/S12144-018-0113-3.

Tolmacz, R., Lev-Ari, L., & Bachner-Melman, R. (2021). Refining the Assessment of Entitlement in Romantic Relationships: The Sense of Relational Entitlement Scale—Revised (SRE-R). *Frontiers in Psychology*, *12*, 4265. https://doi.org/10.3389/fpsyg.2021.744618.

Tolmacz, R., Cohen, R., Leiman, R., & Gerber, Z. (2022). The Association between Attachment Orientation and Relationship Authenticity and Satisfaction: The Mediating Role of Concern. *North American Journal of Psychology*, *23*(1). 27-44.

Tolmacz, R., Bachner-Melman, R., Lev-Ari, L., & Almagor, K. (2022). Interparental conflict and relational attitudes within romantic relationships: The mediating role of attachment orientations. *Journal of Social and Personal Relationships*, *39*(6), 1648-1668.https://doi.org/10.1177/026540752110616.

Thompson, R. A. (2014). Socialization of emotion and emotion regulation in the family. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 173–186). The Guilford Press.

Thorberg, F. A., Young, R. M. D., Sullivan, K. A., & Lyvers, M. (2009). Alexithymia and alcohol use disorders: a critical review. *Addictive Behaviors, 34(3), 237-245.* https://doi.org/10.1016/J.ADDBEH.2008.10.016.

Tracy, J. L., & Robins, R. W. (2004). "Putting the Self Into Self-Conscious Emotions: A Theoretical Model". *Psychological inquiry*, *15*(2), 103-125. https://doi.org/10.1207/s15327965pli1502_01.

Troyer, D., & Greitemeyer, T. (2018). The impact of attachment orientations on empathy in adults: Considering the mediating role of emotion regulation strategies and negative affectivity. *Personality and Individual Differences*, *122*, 198-205. https://doi.org/10.1016/j.paid.2017.10.033.

Tull, M. T., Barrett, H. M., McMillan, E. S., & Roemer, L. (2007). A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behavior therapy, 38*(3), 303-313. https://doi.org/10.1016/j.beth.2006.10.001.

Wearden, A., Perryman, K., & Ward, V. (2006). Adult attachment, reassurance seeking and hypochondriacal concerns in college students. *Journal of health psychology*, *11*(6), 877-886. https://doi.org/10.1177/1359105306069086.

Wei, M., Heppner, P. P., Russell, D. W., & Young, S. K. (2006). Maladaptive perfectionism and ineffective coping as mediators between attachment and future depression: A prospective analysis. *Journal of Counseling Psychology*, *53*(1), 67-79. https://doi.org/10.1037/0022-0167.53.1.67.

Wong, N. M., Mabel-Kenzie, S. T., Lin, C., Huang, C. M., Liu, H. L., Lee, S. H., & Lee, T. M. (2022). Meta-analytic evidence for the cognitive control model of loneliness in emotion processing. *Neuroscience & Biobehavioral Reviews*, 138, 104686. https://doi.org/10.1016/j.neubiorev.2022.104686.

Wood, D., Crapnell, T., Lau, L., Bennett, A., Lotstein, D., Ferris, M., & Kuo, A. (2018). Emerging adulthood as a critical stage in the life course. *Handbook of life course health development*, 123-143.

Yarbro, J., Mahaffey, B., Abramowitz, J., & Kashdan, T. B. (2013). Recollections of parent–child relationships, attachment insecurity, and obsessive–compulsive beliefs. *Personality and Individual Differences*, *54*(3), 355-360. https://doi.org/10.1016/j.paid.2012.10.003.

Zaehringer, J., Falquez, R., Schubert, A. L., Nees, F., & Barnow, S. (2018). Neural correlates of reappraisal considering working memory capacity and cognitive flexibility. *Brain Imaging and Behavior*, *12*(6), 1529-1543. https://doi.org/10.1007/s11682-017-9788-6.

Zhu, R., Wu, H., Xu, Z., Tang, H., Shen, X., Mai, X., & Liu, C. (2019). Early distinction between shame and guilt processing in an interpersonal context. *Social neuroscience*, *14*(1), 53-66. https://doi.org/10.1080/17470919.2017.1391119.

Zimmermann, P., & Iwanski, A. (2014). Emotion regulation from early adolescence to emerging adulthood and middle adulthood: Age differences, gender differences, and emotion-specific developmental variations. *International Journal of Behavioral Development, 38*(2), 182–194. https://doi.org/10.1177/0165025413515405.